CHARACTERISTICS OF NATURAL FAMILY PLANNING USERS:

A CASE STUDY OF NAIROBI.

BY

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UNIVERSITY OF NAIROBI.

DEDICATION

To my dear wife, ESTHER, our children, our mother, Rebecca Roronya, and my late father; Lazarus C.A. Roronya and late paternal uncle: Chaptarus K.A. Roronya.
DECLARATION

This Thesis is my original work and has not been presented for a degree in any other University.

Sign

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This has been submitted for examination with our (my) approval as the University supervisor.

Sign

PROF. DR. A.B.C. OCHOLLA-AYAYO
(University Supervisor)
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ABSTRACT

Natural Family Planning (NFP), which is the core of this study, is a method of birth regulation which does not involve the use of chemicals mechanical gadgets or operations. It involves the use of fertility awareness of the female's cycle.

The thesis intended to find out some of the socio-cultural, economic, behavioral and demographic attributes which characterizes the users of NFP methods. Here the selected variables for study included ethnicity, religion, occupation, educational level, difficulty in abstinence, spousal communication, age and duration of marriage. The other main objective of the study was examination of the perceived advantages and disadvantages associated with the use of NFP methods.

From the review of literature, the study found out that some primitive form of Natural Family Planning has been in use since ancient times according to Ramaswamy (1976), Guzzetti (1980) and Babara (1982), and it was not until 1930's when the modern NFP methods were discovered (C.D.C. 1983). The literature indicated that the characteristics of NFP users are varied and findings from different researches and regions at times seem to conflict as shown by findings on religion characteristics which ranges from Catholics to non-christian regions (Borkman et all 1983). However the literature reviewed generally concurred that NFP users are
characterized by high level of couple communication, varied socio-economic, socio-cultural and demographic attributes while the perceived advantages include absence of side effects and marriage enrichment and chief disadvantages is lack of husband co-operation as shown by works of Ramaswany (1976), Hatches (1980), Borkman et al (1983), Lancot et al (1984), Klan (1986), IISNFP, Gundy (1987), and Kiura (1990).

The study, using descriptive statistical techniques, found out that socio-cultural, economic, behavioral and demographic characteristics of NFP users are generally similar to those of artificial users, and thus concluded in general terms that NFP methods, if given emphasis in all family planning clinics can be accepted and used by varied number of people. One significant different between NFP and artificial users, found by the study was the existence of high level of couple communication and co-operation among NFP users, while little among artificial users. Significant advantages given for NFP use included marriage enrichment and lack of side effects (37.6%; 56.5%) while the most mentioned disadvantaged is the creation of tensions between the spouses during the fertile phase of the woman's cycle (1.2%; 34.3%) from NFP and artificial users respectively.

The study using its findings made some recommendations which include the need to widely disseminate the correct and most modern
NFP services to dispel the widespread ignorance among the public and thus to enhance its use in the country and the need to underlinethe values associated with it in its teaching. Research recommendations include the need to investigate the various determinants of NFP acceptance and its continued use, inter alia.
ORGANIZATION OF THE THESIS:

This thesis is organized in a series of five chapters. On the first pages before chapter one are title, dedication, declaration, acknowledgements, abstract, organization of the thesis, abbreviations used, time schedules, list of contents and list of appendices, and finally outline of chapters.

Chapter one consists of general introduction, statement of the problem, objectives of the study, conceptual hypothesis, operational hypotheses, rationale of the study, background to the study area: Nairobi, and historical development and types of NFP methods in the world and Kenya.

Chapter two concentrates mainly on literature review giving various studies that have been done on NFP methods and use and perceived advantages and disadvantages in different parts of the world. It starts with the world as a whole dividing it into developed and developing regions, followed by North America, South America, Europe, Asia/Oceania, Africa and finally Kenya. After which in the same chapter comes the conceptual statement, definitions of analytical concepts, and operational concepts and ends with operational statement.

Chapter three, which deals mainly with methodology of data
collection and analysis, starts with brief introduction, followed by sampling and sources of data, nature and quality of data, sampling and interviewing procedures, coding and editing, frequency distributions, percentages, mode and finally on this chapter is scope, limitations and problems of the study.

Chapter four deals with presentation and analytical interpretation of the results. It is divided into two sections: A and B. Section A deals mainly with comparative look at characteristics of NFP and Artificial users, while section B deals with NFP methods preference and the perceived advantages and disadvantages (problems) of NFP from both NFP and Artificial users.

Chapter five consists of summary of findings, conclusions and recommendations. It also contains the bibliography.

The last part is the appendix which contains the questionnaire, quotations, glossary, tables and maps, and research permission letters.
ABBREVIATIONS:

1. BBT:- Basal Body temperature
2. C.D.C:- Cairo Demographic Centre
3. CMM:- Cervical Mucus Method
4. FAM:- Fertility Awareness Method
5. FLCAK:- Family Life Counseling Association of Kenya
6. FPAK:- Family Planning Association of Kenya
7. FPPS:- Family Planning Private Sector
8. IFFLP:- International Federation of Family Life Promotion
9. IISNFP:- Institute for International Studies in Natural Family Planning
10. IUDs:- Intra-Uterine Devices
11. KEMRI:- Kenya Medical Research Institute
12. KEMRI-CRC:- Kenya Medical Research Institute-Clinical Research Centre
13. KDHS:- Kenya Demographic Health Survey
14. KCPS:- Kenya Contraceptive Prevalence Survey
15. KCS:- Kenya Catholic Secretariat
16. MCH/FP:- Maternal and Child Health/Family Planning
17. KFS:- Kenya Fertility Survey
18. MCPS:- Mauritius Contraceptive Prevalence Survey
19. MMM:- Modified Mucus Method
20. NAS:- National Acceptance Survey
21. NBCFP:- National Billing Centre for Family Planning
22. NCPD:- National Council for Population and Development
23. NFP: - Natural Family Planning
24. OM: - Ovulation Method
25. PA: - Periodic Abstinence
26. PNFPS: - Philippines Natural Family Planning Survey
27. PSRI: - Population Studies and Research Institute
28. S-TM: - Sympto-Thermal Method
29. TFR: - Total Fertility Rate
30. U.O.N.: - University of Nairobi
31. Vs: - Versus
32. WHO: - World Health Organization
33. WOOMB: - World Organization Ovulation Method-Billings
34. ZPG: - Zero Population Growth
TIME SCHEDULE FOR STUDY

1. August-December (1989)-Writing of research proposal
2. January-March (1990)-Data collection
3. April-July (1990)-Data Analysis
5. May 1991- Thesis submission
LIST OF CONTENTS:

CHAPTER ONE: GENERAL INTRODUCTION OF THE STUDY: 1

1.0.1 Introduction to Background of the study area: Nairobi 1

1.0.2 The theme of the study: NFP 7

1.0.3 Statement of the Problem 14

1.0.4 Objectives of the Study 16

(a) General Objectives 16

(b) Specific Objectives 16

1.0.5 Rationale of the Study 17

CHAPTER TWO: LITERATURE REVIEW: 21

2.0.1 Historical Development and types of Natural Family Planning (NFP) methods 21

2.0.1 (a) Historical Developments of NFP methods 21

2.0.1 (b) Development of Natural Family Planning (NFP) in Kenya. 24

2.0.1 (c) Types of Natural Family Planning Methods. 28

2.0.2 Developed Vs Developing Countries 36

2.0.3 North America 37

2.0.4 South America 42

2.0.5 Europe 43

2.0.6 Asia/Oceania 45
CHAPTER THREE:

METHODOLOGY OF DATA COLLECTION AND DATA ANALYSIS:

3.0.1 Introduction 64
3.0.2 Sampling and Sources of data 65
3.0.3 Nature and quality of data 70
3.0.4 Methods of Data collection 72
3.0.4.1 Introduction 72
3.0.4.2 Sampling design 72
3.0.4.3 Questionnaire 75
3.0.4.4: Editing Coding and Tabulation 76
3.0.5 Scope, Problems, and limitations of data collection. 77
3.0.6 Methods of Data Analysis 80
3.0.6.1 Introduction 80
3.0.6.2 Frequency Distributions 83
3.0.6.3 Percentage 83
CHAPTER FOUR: DATA ANALYSIS AND FINDINGS:

4.0.1 Introduction 85

4.0.2 Section A

Characteristics of NFP and Artificial Methods users. 85

4.0.3 Section B

(i) NFP method preference 106

(ii) Reasons for changing from Artificial to NFP methods. 107

(iii) Reasons why more people use Artificial methods than NFP 110

(iv) Weaknesses (problems) associated with use of NFP: Views from users of both NFP and Artificial methods. 112

(v) Why former NFP users changed to Artificial methods 114

(vi) Perceived advantages and disadvantages of methods: Views from NFP and Artificial users. 116

4.0.4: Fertility intentions of NFP users in the study area-Nairobi-1990. 119.
CHAPTER FIVE:
SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS:

5.0.1 Introduction 123
5.0.2 Summary and conclusions 123
5.0.3 Policy Recommendations 129
5.0.4 Research Recommendations 133
5.0.5 Bibliography 135

APPENDICES:

Appendix I: Questionnaire 158
Appendix II: Quotations 168
Appendix III: Glossary 171
Appendix IV: Tables and Maps. 174
Appendix V: Research permission letters 178

LIST OF TABLES

Table 1.1.1: Socio-Demographic Indicators For Nairobi and Kenya. 6
Table 3.0.2 (A) Number of clients of NFP and artificial centres captured in the study 69
Table 4.0.1: Ethnicity and use of NFP and artificial methods 86
Table 4.0.2: Variations in use of NFP and Artificial
Table 4.0.0: Graphical representation of NFP and Artificial method given per age group

Table 4.0.3: Percentage of males and females in the sample for both NFP and Artificial users.

Table 4.0.4: Percentage of NFP and Artificial methods per religious affiliations.

Table 4.0.5: Percentage given per response on difficult in abstinence.

Table 4.0.6: Duration of marriage variations on family planning methods.

Table 4.0.7: Relationship between use of NFP and Artificial methods with education levels.

Table 4.0.8: Relationship between occupation and the use of both NFP and Artificial methods.

Table 4.0.9: Relationship between NFP and Artificial Methods with whether couple communication exists or not.

Table 4.1.0: Relationship between previous contraceptive behaviour and use of NFP and artificial methods.

Table 4.1.1: NFP method preference.

Table 4.1.2: Reasons for changing from Artificial to NFP methods.

Table 4.1.3: Why many people use Artificial methods.
more than NFP: Reasons from both NFP and Artificial users

Table 4.1.4: Problems associated with NFP use: Views from NFP and Artificial users

Table 4.1.5: Artificial users: Why they changed from NFP methods and NFP methods they used

Table 4.1.6: Perceived Advantages and Disadvantages of NFP use: Views from NFP and Artificial users

Table 4.1.7: NFP users fertility intentions.

Table 4.1.8: Percent of distribution of chart by when next child is wanted in urban area—Nairobi.


Table B Classification of Nairobi Wards by Social Class-1979 and 1989

Map I: Kenya: Nairobi Province

Map II: Nairobi Province
CHAPTER ONE

GENERAL INTRODUCTION OF THE STUDY.

1.0.1. INTRODUCTION TO BACKGROUND OF THE STUDY AREA: NAIROBI.

Nairobi, the capital of Kenya, is one of the largest cities in the tropical Africa and among the fastest growing in the world. Located on the southern foot-hills of the Kenya highlands, the city constitutes one of the eight provinces into which the Republic of Kenya is administratively divided (maps I and II - Appendix).

The rapid population expansion going on in Nairobi results from a combination of high natural increase rates and a substantial rural-urban migration, as it is the major receiving areas of most migrants from rural areas (Adejuwon, 1979; Gasana, 1985; Omagwa, 1985). People are moving currently and being borne into the city of Nairobi at the rate of more than 500 per day (i.e. 2,000,000 p.a.). At this rate (7%) it will double its size every 10 years and is expected to have 2.8 million people by 2000 AD (Omagwa, 1985).

Age-sex ratio is highly imbalance, as 2/3 of the migrants are males, 90% of whom are under 30 years while 1/3 are below 14 years
(Gasana, 1985 Omagwa, 1985, Downes, 1989). The male dominance in the city is due to the fact that many single men come for wage employment and that many married men have sought work in the city leaving their wives up-country. This sex imbalance is however, changing as more women attain higher education and are coming to the cities for employment in white collar jobs. This demographic structural change has corroded diverse cultural values such as regulations governing family formation and marriage patterns. There is an increasing trend of single motherhood and unmarried men at higher ages.

Nairobi receives people from every tribe and every section in the country and its population reflects diverse ethnic composition, each one bringing her own ways of living to the city. According to Omagwa (1985) and Downes (1989), the population consists of 33.5% (kikuyus), 18.6% (Luos), 16.22% (Luhya), 12.4% (Kamba) and the rest 19.75 comprises the other ethnic groups such as the meru, Mijikenda, Masai, Boran, Digo, Kalenjin, Samburus, Turkanas, Pokomo and non-kenyans. Therefore the city's social-cultural set-up is an hybrid, although the varied ethnic groups continue to retain much of the original culture (Omagwa 1985).

According to 1979 and 1989 population censuses figures there are great inequalities in population distribution in the various wards (Table A, Appendix IV). Five wards stand out in terms of
population size: Mathare, (68.456) Largest, followed by Kibera/Woodley ward (63.353),(53.562) Eastleigh, Kilimani (45.111) and Kariobangi (43.349), and these are among the most overcrowded areas in Nairobi. The least densely populated areas are to the West and South of the city, Embakasi, Karen, Langata.

The social-economic status of the people in the city varies directly with the levels of education, 30% are illiterate, while less than 42%, have had a secondary school education (Downes, 1989). About a half of Nairobi residents are either unemployed or underemployed and on some parts of the city the percentage is even higher, a factor causing the increased slum development such as Kibera and Mathare. Their socio-economic status thus determines one's place of residence in the estates distribution in the city. The low income brackets live immediately to the north of industrial and commercial areas such as Kibera, Kangemi, Kawangware, Waithaka and Ziwani - Kariokor. (Table B. Appendix IV). The higher skilled operatives, the administrative and managerial staff who are normally in the middle and higher income brackets live in the better parts of the southern residential areas, although most do live in the Western, North-western and the better parts of the northern residential areas as exemplified by Kilimani, Nairobi South/West, Uhuru, Spring Valley, Parklands and Nairobi central (Ogendo, 1972; Omagwa, 1985; Okech et al 1989).
According to Gasana (1985), 32.8% of the males and 43.2% of the females of all ages are non-migrants that is they were born in Nairobi. Of the migrants the majority were from rural Kenya (60.9%, 48.6% - males and females respectively), while those from other urban centres and abroad are 2.2% and 4.1% (males 3.2% and 5.2% females) respectively. When birth place of heads of households is used, migrants percentage increase to 81.3% and 74% for males and females, while those from other urban centres and abroad become 2.4% and 5.5% (males) 3.2% and 7.2% (females).

Marital statues and types, according to Ayiemba (1988), is changing from its traditional nature of universality and polygamy to singles and monogamy respectively in the city. However, variations still exist depending on the cultural background of the people concerned. For example, Luo in the city are still polygamous as their rural counterparts. The Kikuyu although found to be monogamous in legal terms, are increasingly involved in consensual unions and a man can be keeping as many as five mistresses in different parts of the city, a trend which is being followed by other ethnic groups. Divorce rates are also on the increase. Generally women marry earlier that their husbands, while frequency and type of marriage increase with age, especially for males and thus older males are polygamous than their younger counter parts.
The level of fertility in Nairobi is 4.6% on the average (Kiura, 1990), although it still varies from one ethnic group to another. Luo and Luhy have highest fertility of 5.18 and 5.49 respectively, Asians 2.79 and Kikuyu have 4.73. All ethnic groups fertility levels seem to portray the trend of fertility in their rural areas (Gasana 1985). Childlessness in Nairobi is common among young couples but is mainly a voluntary one as many usually after marriage prefer to postpone births to a later date, but this rapidly reduces to natural levels at older ages (Gasana, 1985; Ayiemba, 1988).

All these myriad of socio-cultural, economic, demographic and behavioural forces in the city populace could be the peculiar elements that explain the fertility differentials and levels existing among different ethnic and racial groups and their use of family planning methods depend largely on the approval or disapproval by these social-cultural, socio-economic and behavioural factors (Ocholla -Ayayo, 1988). Although some studies, Mollnos (1973) have shown that urbanization makes people drop their cultural beliefs and practices, rural-urban migrants come to the cities with already formed and internalized cultures which are difficult and take time to change (Omagwa 1985). It therefore means that the results of this study can be generalized to the whole country, because the socio-cultural, economic, behavioural and demographic conditions of the inhabitants are more
or less unchanged and thus similar to those of their rural counterparts. Table 1.0.1. below give some recent socio-demographic indicators for Nairobi and Kenya.

**TABLE 1.1:1**

**SOME SOCIO-DEMOGRAPHIC INDICATORS FOR NAIROBI AND KENYA.**

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Year or Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total population, Kenya (Million)</td>
<td>1969</td>
</tr>
<tr>
<td>Urban Population, Kenya (%)</td>
<td>9.9</td>
</tr>
<tr>
<td>Population of Nairobi ('000)</td>
<td>509.3</td>
</tr>
<tr>
<td>Annual Pop. growth rate, Kenya (%)</td>
<td>3.5*</td>
</tr>
<tr>
<td>Nairobi Pop. as % of all urban</td>
<td>47</td>
</tr>
<tr>
<td>Annual Growth Rate, Nairobi (%)</td>
<td>9.2</td>
</tr>
<tr>
<td>Total Fertility Rate (TFR), Kenya</td>
<td>-</td>
</tr>
<tr>
<td>Adult Literacy Rate (%)</td>
<td>-</td>
</tr>
<tr>
<td>Population Density, Nairobi</td>
<td>745</td>
</tr>
</tbody>
</table>


Nairobi was chosen as the central point of this study because of
the following reasons, inter alia:

1. The first NFP services and also artificial methods to be provided in Kenya were in Nairobi in 1960s and 1950s respectively and thus a large number of users of both methods could be found in the city, unlike other parts of the country, where the services have recently reached. Thus it is a suitable area to find out some of the advantages and disadvantages of the family planning services in general and NFP in particular.

2. With its varied nature of its population or social, economic demographic and cultural aspects, it is an ideal area for study on the psychological, demographic, economic and cultural characteristics of the NFP users.

1.0.2 THE THEME OF THE STUDY: NFP

The urgent and universal need today in both developed and developing countries is to improve fertility regulation. This is more so in developing countries such as Kenya, Uganda, Zimbabwe, Ethiopia, Brazil and India to mention a few. Here high fertility and fast declining mortality (due to improved medical care, increased food supplies, reduction of human injustices such as slavery and elimination of tribal wars, inter alia) has resulted in the currently high population growth rate (> 3 per cent per annum) often termed as population explosion (Som, 1972; U.N. 1973; Guzzetti 1980; Chelule, 1984; Ikamari 1985). This population growth rate of developing countries differ significantly in rate,
trend and level from the experience of the Western World as explained in the Demographic Transition Theory. The theory explains well, the demographic changes that took place in Europe in 19th century, but seem to have little relevance in what is taking place in developing countries, where mortality has dropped sharply without a corresponding fall in fertility (Jhingan 1986; Ominde 1988). There has been a growing realization in Kenya, like in other developing countries that economic development cannot make headway unless the high population growth rate is brought under control (Population and Development Review, 1988).

Although Boserup (1965) and Amin (1972) argue that high population growth may promote socio-economic development, most scholars and policy makers would agree that the high population growth rates such as those experienced by the majority of developing countries tend to create developmental problems such as high unemployment rates, shortage of and strain on medical, educational and water facilities and land pressure, all of which hold back socio-economic development (Ikamari, 1985; Waters et al 1986; Irandu, 1989). Many countries are now aware of the negative effects of rapid population growth on socio-economic development and have consequently adopted policies and programmes aimed at reducing it, often implemented through the family planning programmes and concerted efforts are being used to find out how to present the services in the most acceptable way to the public so
as to enhance the use and thus quick achievement of lower population growth rate. Thomlinson (1986), Kleinman (1980), Guzzetti (1980), and Billings et al (1980) found out that the success of a population policy depend on four factors:

(a) The condition that it will improve the marital bond, family and enhance value of human life.

(b) Acceptance of the small family norm by the people through education and motivation.

(c) The philosophy behind the methods used in the policy, and the

(d) availability of methods that are safe, cheap and acceptable to the people on economic, social, religious, cultural and reversibility contexts.

For centuries past and upto the present in different cultures, Man has desired to control the number of the coming generation, to increase it in time of prosperity and to restrict it in times of scarcity (Peel 1970, Guzzetti 1980). Two methods have been in use which this goal could be achieved: either by complete abstention or by coitus interruptus. Long breastfeeding period after birth was also an important birth regulation method in most African Societies, but is quickly disappearing due to effects of urbanization and modernization on these societies. However ample historical and anthropological evidence show that various forms of periodic abstinence have been widely in use in many societies
ranging from ancient Rome, through India cultures of New Mexico to the Nandi of East Africa (Peel 1970; Thomlinson, 1976; Babara, 1982), usually based on the socio-cultural codes which govern fertility (Ocholla-Ayayo, 1988). However due to lack of adequate knowledge of the fertile phase, none of these methods were 100 per cent effective nor could help enhance marital harmony and health of the spouses and this led to the continued search for better and more effective methods and contraceptives such as the pills, injectables, IUDs, condoms and natural methods such as ovulation (Billings) and symto-thermal have been the result (McSweeney, 1979, Lanctot, 1979; Mascarenhas, 1985).

Natural Family Planning (NFP), the core of this study, has been defined as a way of family planning that does not include the use of artificial birth control (Mechanical and or Chemical) methods such as the condom (Babara et al, 1982). It is a method of conception regulation based on fertility awareness and selective abstinence and thus it is an approach to understanding and respecting human sexuality with its inherent procreative capacity and its consequent responsibility (IFFLP, 1986; Kenya Catholic Secretariat (KCS), 1989). It is a method of family planning by which a couple uses the daily observations of signs and symptoms of fertile and infertile phases of the woman's menstrual cycle to guide the timing of intercourse according to their desire to achieve or avoid pregnancy (Klaus et al, 1979; Daly, 1983; Lanctot
et al, 1984; Hampton, 1987; Snowden, 1988; Ponzetti, 1988; Rogo, 1988). The World Health Organisation (WHO) defined it as "the techniques for planning or preventing pregnancies by observation of the natural occurring signs and symptoms of the fertile and infertile phases of the menstrual cycle. It is implicit in the definition of NFP, when used to avoid pregnancies, that there is abstinence from sexual intercourse during the fertile phase of the menstrual cycle" (Institute for International Studies in natural Family Planning (IISNFP) 1987). Delegates to the Second General Assembly of the International Federation for Family Life Promotion (IFFLP) defined it as involving three different but complementary concepts: (i) means by which the couple use the daily observation of signs and systems of the fertile and infertile phases of the menstrual cycle to guide the timing of intercourse according to their desire to achieve or avoid pregnancy (ii) a way of life, involving temporary sexual abstinence, freely chosen by the couple to enrich their sexuality and conjugal dialogue and (iii) an educational process by which the community teaches the youth the responsibilities of adulthood, prepare the engaged for marriage and develops the couple to a fully, mature relationship (Johns Hopkins University, 1981).

The major concepts of Natural Family Planning (NFP) methods are primarily the identification of the individual probable fertile period in a current menstrual cycle and a subsequent modification of sexual behaviour - either using the fertile period to have
intercourse when conception is planned or abstaining from intercourse during this period in order to avoid pregnancy. A varying proportion of couples also use various forms of contraception (such as coitus interruptus, condoms, diaphragms or spermicides) during the fertile period but this is not in real sense NFP but such is conventionally referred to as selective or limited contraception (Lanctot, 1979), and therefore this study did not address itself to it.

The philosophy behind NFP is the conviction that human life is more than merely human but is sacred, mysterious and unending. It does not belong to man but comes to him each day as a free gift from God so that no man has the right to take his own life or that of another, but on the contrary, he is bound to develop himself to his full potential and other beings in this world just as he finds them with their sad limitations and wonderful possibilities (Golden, 1981). This philosophy is generally in keeping with the conviction of some of the world religions: Islam, Christianity, and others whose belief is that the universe was created by God and "every human activity must be in line with God's eternal plan for mankind" (Kippley 1979; Golden, 1981; Lanctot (ed), 1984).

NFP methods for the last 30 years, have witnessed an increasing use by couples of all religious persuasions and others who have no religious affiliations due to some reasons such as marked changes
in attitudes about sexual relations and family size, and socio-economic and housing needs. Also widespread has been the belief in developing countries that overpopulation must be countered by Zero Population growth (ZPG) and the discovery of modern, scientific and effective NFP methods (Golden 1981, Lanctot 1984). Included is the realization that NFP is not only a method of birth control but a positive way of love which improves the quality of the society, together with the publicity that doctors are giving to the dangers of contraceptives and abortifacients and the desire of couples to limit their family size through birth regulation that do not violate their consciences and are approved by the Catholic Church (Santamaria, et al 1980; Mascarenhas, 1985; McSweeney 1985; IFLLP, 1986). Other reasons have been increased concern for ecological values, aesthetic and personal freedom, heightened interests by governments as well as public and private agencies such as USAID and IFLLP which through funding have led to increased resource availability for research and service delivery system (IFLLP, 1986).

Indeed available evidence from different parts of the world indicate that the use of some NFP method has been gaining popularity for example, in Peru, 41% of women using family planning methods use some form of NFP, Bangladesh, Haiti, Mauritius, Sri Lanka, Ecuador and Philippines 20%, while Brazil, Columbia, Mexico and Paraguay 10% (Santamaria, et al 1980). In U.S.A. 2.8% of couples used NFP in 1973 and in 1976 it had risen to 3.4% and
throughout the world some 54 million couples use NFP, whereas about 50 million use oral contraceptives and 60 million use IUDs (Barbato 1986). In Kenya, various studies (KFS, 1977-78; KCPS, 1984; KDHS, 1989, Kiura et al, 1990) have shown that Periodic Abstinence is used by more women than any other method of birth control.

1.0.3 STATEMENT OF THE PROBLEM:

Since its inception in 1966, the Family Planning Association of Kenya (FPAK) has mainly emphasized the use of artificial methods of birth control such as the pill and injectables, while the use of natural methods (such as the Mucus-Billings) have been somewhat neglected or given little emphasis or even often discouraged by Population Policy Makers, administrators and family planning service providers (Kiura, 1990). The reasons given for this tendency are that NFP effectiveness is very low, its acceptability and use questionable and that many clients find it difficult to learn and the belief that the cost and utilization services - provider time would be higher than for many other methods if NFP was to be incorporated into the existing family planning services framework (Lanctot, 1979; Rogo, 1980). Yet Munyakho (1989), and the recent Kenya Demographic and Health Survey (1989) revealed that periodic abstinence or NFP, is the most popular method of child spacing and limitation in Kenya among women aged 15-49 years practising fertility regulation. Earlier findings by KFS (1977-78) and KCPS (1984) portrayed the same trend, that periodic
abstinence had the highest ever-used percentage (13%) of all other methods followed by the pill 7% and 9% respectively for the surveys. The present study is an attempt to fill some of the gaps in our knowledge of NFP use and characteristics of its users in Kenya. Indeed NFP is a valid alternative to mechanical/chemical (artificial) methods, yet there are a lot of ill-founded ideas on its acceptance and use, for example that it is used only by the catholics or by poorly educated people. This study therefore aims to answer some of those questions surrounding NFP acceptance and use by addressing itself to the socio-cultural economic, psychological and demographic characteristics of the current NFP users versus the non-users. Indeed the core problem of this study is to find out the characteristics featuring among the NFP users in Nairobi and examine some of the perceived advantages and disadvantages of its use in an attempt to bring to light the current state of natural family planning use. In an attempt to assess the characteristics of the NFP users the study intended to achieve the following:

(a) general objectives

(b) specific objectives.
1.0.4  **OBJECTIVES OF THE STUDY:**

1.0.4 (a)  **GENERAL OBJECTIVES**

1. To identify the socio-cultural, economic, psychological (behavioral) and demographic characteristics that are associated with the use or non-use of NFP methods.

2. To examine the perceived advantages and disadvantages of Natural Family Planning (NFP) methods and associated problems.

1.0.4 (b)  **SPECIFIC OBJECTIVES**

1. To find out how previous contraceptive use varies from users to non-users of NFP as a characteristic.

2. To find out the variation in age among users of NFP and artificial methods.

3. To find out whether use of NFP or artificial methods varies with gender (sex).

4. To examine the variations of duration of marriage among users of NFP and Artificial methods.

5. To examine couple communication as a characteristic among the NFP and Artificial users.

6. To examine difficulty in abstinence as a characteristic, whether it varies from NFP users to artificial users.

7. To examine whether the NFP users are characterised or not.
by religious affiliations.

8. To find out whether ethnicity as a characteristic varies from NFP users to Artificial users.

9. To examine the educational characteristic variations among users and non-users of NFP methods.

10. To find out how occupation as an economic characteristic varies from NFP users to Artificial users.

11. To examine method preference among NFP users.

12. To find out the advantages and disadvantages of NFP methods as perceived by the users and non-users (artificial users).

13. To recommend areas of policy action and further research in the Natural Family Planning Programme.

1.0.5 RATIONALE OF THE STUDY

In its endeavour to achieve the objective of lowering the rate of population growth and improving the economic well-being of the people, Kenya took a unique position as it was the first country in Tropical Africa to adopt a national family planning programme in 1966 (Guzzetti, 1980; Khasiani, 1988). In fact, in Kenya a family planning association was established very early in 1954 and affiliated to the International Planned Parenthood Federation (IPPF) in 1962. Yet despite the activities of the association meant to persuade Kenyans to have smaller and manageable families, Kenya presently has the highest population growth rate in the world of 4.1 per cent per annum (Khasiani, 1988), and despite the great
interest in Family Planning Services provision, little attention has been paid to the natural methods of family planning and especially to factors which affects its acceptability. Most students of family planning use in Kenya for example (Murungaru, 1982; Ikamari, 1985) among others have concentrated on contraceptives (artificial methods), despite the fact that many studies such as KFS (1977-78) KCPS (1984) and KDHS (1989) have identified NFP as a major family planning method used in Kenya.

1. This calls for a deeper study into the family planning services, in an effort to improving its quality and quantity.

Natural family planning methods could be an additional enrichment to the population control programmes, and if incorporated into the existing family planning services it may help hasten the lowering of the high population growth. Therefore findings of this study may be of great help to the government in pursuance of attainment of its objectives of population control.

2. Secondly, although some find artificial methods satisfactory, some, even those who use them find them unsatisfactory either because they are costly or they involve using unpleasant devices or drugs or have some effects that endanger health, or hurt their consciences and therefore findings of this study will provide Kenyans with a method which may avoid some of the above limitations and thus can be a useful component of the country's family planning policy.
3. Also as NFP involves both husband and wife and requires commitment of both spouses for its success, thus the findings of this study are helpful to couples for its adoption may improve their marital relationship.

4. Due to historical development of family planning policy and programmes since 1966, natural family planning has not been accorded the priority it deserves (Kekovole, 1990). The current MCH/FP programmes emphasize mechanical or pharma-cological contraceptives, a bias which has negatively affected the attitude of the medical and paramedical staff about the effectiveness of the natural family planning methods. This study's results therefore bring to light the role NFP can play in lowering the fertility and the need to integrate it into the existing family planning programme by the policy makers, medical and paramedical personnel.

5. There is a widely held belief that NFP is impossible for the ordinary persons, with the claim that it requires too long period of abstinence and is too complicated for the illiterate persons. This study attempts therefore to test the validity of these beliefs by investigating the attributes that characterise users of NFP methods, versus artificial users.

6. Despite the evidence from various studies KFS (1977-78), KCPS (1984) and the recent KDHS (1989), that a significant proportion of the women interviewed used NFP methods, no significant research has been done to ascertain the NFP
effectiveness, characteristics of NFP users and the reasons for high prevalence rate of these methods and thus this research is an attempt to fill this gap of knowledge.
2.0.1 HISTORICAL DEVELOPMENT AND TYPES OF NATURAL FAMILY PLANNING (NFP) METHODS:

(a) HISTORICAL DEVELOPMENT OF NFP METHODS:

Over the ages, menstruation and fertility have been linked together. The ancient physicians in Egypt had already discovered that the most likely time for conception lies, roughly in the middle between two periods. Moses, in the Old Testament was educated in an Egyptian Temple School, on relationship between menstruation and fertility, and he based on that concept the regulation of sexual life, which he included in his religious code (Guzzetti, 1980). Indeed even to our forefathers certain contraceptives were known as can be deduced from the rebuke Socrates gave his son, Lamprocles, for being unkind to his mother, "Do not imagine that parents beget children only to satisfy their carnal desires, for means to avoid them are everywhere available" (Guzzetti, 1980).

In the 2nd century A.D. the Greek physician Soranus, deduced that the menstrual flow prevented the male seed from attaching itself to the uterine wall, and argued that the most likely time for conception was soon after menstruation, and to prevent it, he recommended that coitus should be avoided at the end and immediately after menstruation (Ramaswamy et al., 1976). Though little information is available on African and American Indian
tribes, and other groups all over the World, it appears that they had some knowledge of the fertility cycles and is known that they did use one of the fertility signs – the cervical mucus (Babara et al., 1982). Indeed, attempts to avoid conception by periodic abstinence based on fertility cycles have been in use in many societies where historical and anthropological knowledge is available such as the ancient Rome, the American Indians and the Nandi of East Africa (Peel, 1970; Guzzetti, 1980; Barbara et al., 1982). Nineteenth century Europe was no exception and in 1953, tacit vatican approval coincided with the development of a false scientific analogy of the idea that the menstrual phase represented the peak fecundity and that an infertile period occurred in the middle of the cycle. But earlier on in 1827, Baer identified human ova and at the same time Bischoff recovered eggs in the tubes and uteri of the bitches during the oestrus, and concluded that vaginal bleeding in dog's oestrus and menstrual bleeding in women were similar, though all these were later on proved untrue (Ramaswamy et al., 1976). These trials to discover the fertile phase in a woman's cycle, though untrue, formed the foundations of the later researches which brought to light that the fertile period lies at the peak of the cycle.

It was not until 1930, when the Rhythm or Calendar method came into use and was a tremendous advance in the understanding and controlling of fertility. The name Rhythm comes from a book by Latz, The Rhythm of Sterility and Fertility in Women, but was
first applied as a fertility control method by Ogino in Japan (1930) and Knaus in Austria (1929), who though at distant lands, discovered at the same time, that ovulation occurred two weeks before menstruation to which it was related (Peel, 1970; Ramaswamy et al, 1976; Babara, et al 1982). The weakness, though not its only weakness of the Ogino-Knaus (Rhythm - Calendar) method is its predictiveness such that irregularity outside the range on which the calculations of its formula are based, results in failure.

Because all women are more or less irregular in their menstrual cycles - this method - the Rhythm - faced a lot of failures a high proportion of which were related to errors of understanding and strictness of the fertility cycle (Guzzetti, 1980). The recognition of this escapable weakness of the Rhythm method prompted further research on NFP methods and in 1934, Hillibrand from Germany, became the first to use Basal Body Temperative Method (BBT) in a couple, while the Billings of Australia later discovered the Mucus - Ovulation method largely from religious convictions. From their clients the Billings, learnt that mucus characteristics vary through the cycles and by 1962, their study was well advanced and were able to work out rules for using cervical mucus as a method of family planning. The Billings also found out the BBT method discovered earlier in 1934, better than the first method - the Rhythm, but was useless alone for women with irregular cycles (C.D.C. 1983). The two: Billings - Ovulation and BBT methods were then combined and termed as the Sympto-Thermal Method (S-TM).
Concerned with the negative effects of the rapid population growth on development, in 1965, the Kenya Government invited a Population Council Advisory Council Committee to assess the situation and make recommendations. In response to the recommendations and findings of earlier studies, Kenya became the first sub-Saharan country to adopt a national family planning programme (KCPS, 1984; Khasiani, 1988).

The colonial government, alarmed by the 1948 census indication of a rapid growth of population encouraged private medical practitioners to provide family planning services to their clients, and in 1955, family planning associations in Nairobi and Mombasa were formed and initiated efforts to create awareness and provide modern contraceptives (KCPS 1984; Khasiani 1988, Kiura et al 1990). In 1961, these associations combined and formed the Family Planning Association of Kenya (FPAK) (Khasiani, 1988). When the FPAK was launched officially in 1966, it assumed that fertility reduction is closely linked with declines in mother and child morbidity and mortality, a framework on which it has operated since its inception, with the major emphasis on information and education.

In 1983, Kenya established the National Council for Population and Development (NCPD), under the Ministry of Home Affairs and National Heritage, with the overall responsibility of formulating population policies and for coordinating all activities in the country, related to population programmes (P.S.R.I., 1984).
uses government agencies such as the Ministries of Health, Education, Culture and Services and non-governmental organizations such as the Family Planning Private Sector (FPPS) to control and promote family planning acceptance and use in the country (KCPS, 1984). But prior to the establishment of NCPD, family planning activities were mainly under the custody of FPAK and the Ministry of Health.

The work of the FPAK and the Kenya Government through the Ministry of Health was and has been mainly to reduce population growth rate to the level that is in line with the growth in economic development, by provision and use of contraceptives, increased publicity through education and media on the need for small families. It is clear from this that little has been said of the NFP methods, despite the fact that various findings have continually shown that periodic abstinence has the highest prevalent rate (KFS, 1977/78, KCPS, 1984; KDHS 1989). Though recently greater publicity has been given to it as shown by statements such as, "only the natural family planning methods - which President Moi recently described as family planning on harambee basis", qualifies to be termed family planning as it entails the co-operation of both husband and wife (Munyakho, 1989). But NFP has been in use for some time. It was early 1960s when Catholic Missionaries in different parts of Kenya felt the need to instruct couples who sought help in family spacing but would not use the artificial methods either due to health problems or
religious/moral convictions. The method they taught was Calendar-Rhythm, whose effectiveness, unfortunately, was very low.

It was not until 1966 when the Parish Priest of the Holy Family Cathedral, Nairobi, Rev. Father Thomas Meagher, together with the help of Dr. Mary Fernandes, Senior Obstetrician and gynecologist at Mater Misericordiae Hospital, that the first natural family planning Clinic began in Parklands Nursery School. A few days later Mater Misericordiae Hospital opened a clinic for the same purpose. The main reasons for starting these clinics were: dissatisfaction of some couples with artificial methods in use in the country; disapproval of the Catholic Church of artificial methods and cases of infertility (Guzzetti, 1980). Dr. M. Moore, an expert in the NFP methods at Makerere University, Kampala, was invited to teach the methods, from 1966-1970. In 1975, Dr. Hanna Klaus, Obstetrician and gynecologist from the U.S.A. was invited by the Kenya Catholic Secretariat (K.C.S) and had three workshops on Ovulation-Billings method; two in Nairobi and one in Kisumu. In 1976, Anna Flynn, from London, England came to teach the Sympto-Thermal method and gave lectures at Mater Misericordiae and Aga Khan Hospitals and Holy Family Cathedral, Nairobi.

In early 1977, Family Life Counselling Association of Kenya (FLCAK) was born, as an offshoot of the work of the Catholic Church. The small group of people who opened the first two clinics (at Mater Misericordiae and Parklands), were also the founders of the association, the FLCAK, which is now affiliated to the
International Federation of Family Life Promotion (IFFLP) and to the World Organization Ovulation Method Billings (WOOMB). It was soon felt that more medical professionals should be involved in the teaching of the NFP methods, and late in 1977, a core of two surgeons, one gynecologist, two sister tutors, four Registered nurses and midwives attended an intensive training in Birmingham University, England. On their return to Kenya, they taught couples from different areas: Nairobi, Nyeri Kiambu and Nakuru.

However, the first major training was held in 1979, with 82 participants from all over Kenya, and Drs. J. and E. Billings, provided the consultant services. The objective of the training was to expose the participants to the art of NFP so that they would be able to teach it more effectively.

The Family Life Counselling Association of Kenya (FLCAK), working in close co-operation with the Ministry of Health and the FPAK is striving up a close relation with medical profession, church workers, social workers and other interested groups. Upto recently NFP services were offered in Kenya by the Kenya Catholic Secretariat (K.C.S) or church related organizations and FLCAK but because of alarmingly high discontinuation rate of many artificial methods especially the pill, it has been realized that it is important to incorporate NFP in the government Maternal and Child Health (M/CH) family planning services (IFFLP, 1986). This was why a pilot NFP research programme (now completed - 1990) was begun in 1985 by the Kenya Medical Research Institute (KEMRI), under the
auspices of the government with the objective of introducing NFP to the existing family planning services.

In August 22-24, 1989, a conference was held in Nairobi, hosted jointly by the Kenya Catholic secretariat (K.C.S), Family Life Counselling Association of Kenya and convened by the IFFLP, on Natural Family Planning and Child Health and spacing. With proceedings from this conference, greater acceptance, spread of the NFP services and its integration into the existing family planning framework is expected in Government, private organizations, churches and the public in general.

2.0.1 (c) TYPES OF NATURAL FAMILY PLANNING METHODS:

1. THE RHYTHM METHOD:

The Rhythm method is based on the fact that ovulation takes place ten to sixteen days before the following menstrual period, and is a method that works well when cycles are regular because couples can easily calculate when ovulation will occur. The method involves abstinence from sexual intercourse during arithmetically calculated days of potential fertility (Hermann et al 1986). Calculations are based on one's study of her own cycle length for six to twelve months, taking into account the shortest and longest cycle experienced. If for example one records cycle lengths varying from twenty-seven to thirty one days, one would calculate that ovulation might occur on day 11 (27 minus 16) at the earliest, or on day 21 (31 minus 10) at the latest, and thus abstention would
be recommended between day 11 and day 21 and for a further three to five days at the beginning (before day 11), because of possible sperm survival. This would mean using cycle variation of 27-31, that the early safe days would be 1-6 and late safe days 22 until the cycle ends.

As a means of estimating fertility this method was popularized by Ogino (1930) and Knaus (1929) who, through independent studies in Japan and Austria respectively, proved conclusively that ovulation occurs between the periods and that such is the time when conception can take place (Lanctot, 1979).

However with irregularity of cycles, such as after pregnancy, during travel, illness - the method becomes unreliable. Studies of cycle length of women show that no woman is naturally regular all the time and thus the method effectiveness ideally is 99 percent but practically 51 per cent (Billings, 1980). Being not a reliable method for couples who want to avoid pregnancy and for its unnecessary restrictions it has been abandoned in all NFP programmes as a method in isolation, although still used combined with temperature and mucus recordings in the sympto-Thermal (S-TM) method (Billings, 1980; Hermann, 1986).

2. THE BASAL BODY TEMPERATURE METHOD (BBT):
This method of Natural Family Planning (NFP) depends on the identification of the rise in body temperature which occurs at or after the time of ovulation as a result of the elevated
progesterone level (Lanctot, 1979). The resting body temperature is referred to as basal body temperature (BBT). The basal body temperature taken daily at the same time and under the same conditions – whenever possible after a period of rest – is at its lowest level before ovulation but normally rises significantly (0.2°C) after it. Although temperature association with ovulation was suggested in early 1900s it was not until 1930s and early 1940s that it was clearly correlated with hormonal and endometrial changes resulting from ovulation.

Advocates of BBT method use different approaches when estimating the safe days for intercourse: Some claim that a rise above a set temperature indicates that ovulation has taken place, while others identify its occurrence when three temperature readings are higher than previous six. Some advise that the temperature be taken orally, others rectally, while others vaginally (Billings, 1980). If one is using the BBT method, it is wise to have two Thermometers and compare their readings to ensure that accuracy is achieved. Although BBT has been characterised as the most qualitative of all available techniques which can be used in the home to detect ovulation occurrence (C.D.C. 1983), it has quite a number of weaknesses.

Although it has predictive value in determining the onset of menstruation, prediction of ovulation is not possible (Billings, 1980; C.D.C. 1983), because temperature elevation takes place on the same day with ovulation or it may precede or follow it by
several days (C.D.C. 1983, Hermann, 1986). This means that abstinence is required during the entire preovulatory period until the specified number of days after the temperature shift, and hence the method requires more abstinence than the other NFP methods. Also temperature readings can be misleading, for example when there is fever or at times may not rise significantly during ovulation or may do so in steps which makes accurate reading difficult (Billings, 1980; Hermann 1986; Smith, 1987). Again temperature readings under resting conditions daily may prove practically difficult if not impossible and illiterate people would find it hard to grasp its methodologies.

3. **THE SYMPTO-THERMAL METHOD (S-TM):**

This method combines certain features of the BBT and Ovulation methods as both the mucus sign and temperature changes are used to assess the state of fertility. This multiple index approach uses observation of changes in the cervical mucus and other indices to identify the onset of the fertile period in conjunction with the basal body temperature changes to detect ovulation and the end of the fertile period (McCarthy, 1977; Billings, 1980; Hermann, 1986; Rogo, 1988).

The type and mix of other indices used differs from one programme to another. Self-examination of the cervix, though always not recommended for hygiene sake to determine changes in position, texture and dilation is incorporated into some of the S-TM programmes. Calendar calculations and interpretation of secondary
fertility symptoms such as breast tenderness or pain with ovulation are other frequently used indices (Lanctot, 1979; Billings 1980; Hermann 1986). The S-TM method provides a woman with a number of signs and symptoms to check and compare and this is indeed considered to be an advantage especially in cases where a woman faces difficulty with interpretation of only one sign. Some proponents of S-TM believe that BBT shift is a more objective and reliable method than mucus changes for identifying the end of the fertile phase (C.D.C. 1983).

Double-checking a number of indices may be a particularly useful approach for couples who are planning a pregnancy. Many people find S-TM method satisfactory during normal circumstances but during breastfeeding or post-menopause, rhythm calculations and temperature become unreliable indicators and precedence should be given to the mucus sign.

The main problem of combining methods and various signs is that if different signals of ovulation are in disagreement, confusion, anxiety and long period of abstinence tend to result and fertility control becomes more complicated than it needs be (Thormann, 1984; Hermann, 1986; Rogo 1988). Also teaching requirements are greater for S-TM than for other NFP methods. The costs of availability of charts and thermometers may be problematic among the low income populations, and in tropical and sub-tropical areas, chronic and acute disturbances and infections can disrupt the temperature patterns.
4. THE BILLINGS - OVULATION METHOD (OM OR CMM)

Here the basis is the woman's own awareness of the mucus produced by the cervix. This provides a recognizable and scientifically validated guide to her state of fertility (Billings, 1980). Monitoring of the cervical mucus to identify days of fertility and infertility has been associated with the Billings (1964), although Keefe (1962) also was an early advocate. Today there are variations of cervical mucus monitoring described by Hilgers (1979) Flynn (1979) and Dorairaji (1980) among others (Hermann et al 1986).

The Billings method (renamed after its discoverers - J. and E. Billings of Australia) is based on the fact that the quality and quantity of cervical mucus are related to the rising oestrogen level generated by the maturing follicle (Ponzetti, et al 1988). Low level of oestrogen produces a thick, tacky viscous cervical mucus that does not flow and leaves the vulva dry. Higher level of oestrogen produces a slippery, lubricative and transparent mucus that flows into the vagina where it is noticed as a 'wet' sensation. More oestrogenic mucus can usually be seen as clear and will stretch into long strings around the time of maximum fertility (C.D.C. 1983; Thormann 1984; Hermann et al 1986, Kambic, 1987). The quality and quantity of mucus, as well as the length of time mucus is secreted, varies from one woman to another and to some extent from one cycle to another in the same woman. Therefore in order to use the ovulation method (OM) or Cervical Mucus Method
(CMM) a woman must learn to recognize subjectively the changes in the cervical mucus and to time intercourse based on changes in mucus sensation and appearance in accordance with the family planning needs: avoidance or achieving.

The quality and quantity of the cervical mucus is influenced differently by oestrogen and progesterone hormones. Early before ovulation, the mucus is scanty, thick and viscid and the woman experiences a feeling of dryness around the genital area but thins out as oestrogen secretion increases. In the pre-ovulatory phase, the woman has wet slippery sensation and the mucus is highly stretchable (Rogo, 1988). The last day of the wet slippery sensation is the highest point of fertility - the peak, after which a period of scanty, thick mucus, and dryness begins. Intercourse during the wet days will result in pregnancy but not so in the dry days. In practice the fertile period extent from the onset of the wet sensation until the third post peak day, for an average of 7 to 14 days (Lanctot, 1984; Ponzetti, 1988).

The promise of the Ovulation Method (OM) is its relative simplicity and its challenge to prove that all fertile women can be taught to recognize and interpret their fertility. Indeed according to WHO survey (1978), carried out in five countries (Ireland, India, El Salvador, Philippines and New Zealand) it was established that 95 percent of the participants could recognize and chart the mucus symptom by the first or second learning cycle (Lanctot, 1984).
5. **THE MODIFIED MUCUS METHOD (MMM):**

This method, though based on mucus secretions, like the ovulation-Billings method, differs from it because it uses different abstinence techniques. MMM requires fewer days of abstinence and also designed to be more acceptable to couples with high fertility but low motivation to regulate it.

The M.M.M departs from abstinence rules of most C.M. or O.M. methodologies in several ways. Unlike C.M. which requires abstinence during all days of mucus and three nights after the peak, abstinence is reduced to the days of slippery stretchy mucus and two days and nights after the mucus has stopped. Also, while C.M. requires abstinence during menstruation, with M.M.M the first four days of menstrual cycle are avoided, while any other days thereafter of brownish or blood-stained discharge with a dry sensation at the vulva are considered safe for intercourse (Hermann et al 1986). Further, unlike other C.M. methodologies, which require abstinence during the entire first month of learning, M.M.M. has two learning phases with less abstinence during each month.

This modification developed by Dorairaji (1980) is based on data indicating that different qualities of mucus can be discerned and the information used to enable more precise definition of the fertile phase. M.M.M. uses a graded scale to identify five different types of mucus, two of which are considered safe for intercourse.
2.0.2: DEVELOPED Vs DEVELOPING COUNTRIES:

Before the advent of contraceptives, such as the IUDs and improved techniques of voluntary sterilization, Calendar Rhythm was used by up to 25 per cent of married couples in the developed countries but now less than 5 percent of married couples in these countries use it (Johns Hopkins University, 1981). However, during the past 10 years, there has been a broadening interest and excitement in natural family planning (NFP), much of the interest has resulted from advances in understanding of the methods as well as research in evaluation and accountability. Indeed positive programme experiences from all parts of the world combined with the work of investigators such as Mena - Gonzalez (1979) and Muchindu et al (1979-83), using the latest techniques have begun to bring credibility to the NFP movement (Lanctot, 1984).

In most developing countries periodic abstinence (or NFP) methods have not been widely disseminated or used. According to World Fertility Surveys and other recent data, there are only six developing countries where more than 5 percent currently married women are using periodic abstinence: Haiti, Mauritius, Peru, the Philippines, South Korea and Sri Lanka, and except in Mauritius, most of the women have been using the calendar rhythm and not the modern natural methods (Johns Hopkins University, 1981). The couples who use them tend to be couples who do not want to use other methods for either religious or philosophical reasons, supporting the hypothesis that religious and psychological
characteristics do feature among NFP users. But even among those who use and prefer it, NFP is at times a source of tension and dissatisfaction (Johns Hopkins University, 1981; Mauldin et al 1986). Others however find its use rewarding and say it improves marital communication (WHO, 1967; Johns Hopkins University, 1981; IISNFP, 1987), supporting the postulation that NFP users are affected by psychological factors and that NFP methods have some perceived advantages on the family relationship. Other researches have found that users of NFP are largely characterized by high level of couple's motivation to avoid pregnancy and the woman's ability to interpret signs and symptoms of the fertile (Lanctot, 1979; Lanctot et al, 1984; Ponzetti, 1988). Also the unwillingness of one partner especially the male, to accept the long period of abstinence has been found in many studies all over the world, as a major disadvantage hindering NFP use (Johns Hopkins University, 1981; Lanctot, et al 1984; Hampton, 1987; Kiura, 1990).

2.0.3: NORTH AMERICA:

In the vast region of the Americas, natural family planning programmes have gradually been implanted in 12 to 15 countries and are growing progressively. They have developed in different ways according to national character and circumstances.

In the North America zone, quite a number of various studies have been done on NFP. According to a survey (1955, U.S.A) meant to find out the trend in the use of the various NFP methods, rhythm
accounted for about 50% of all contraceptive practice and its use was directly related to the socio-economic status of the clients, supporting the hypothesis that economic characteristics do affect the use of the various NFP methods. Carreau's (1976) Canadian Study (Lanctot, 1979), brought out significant differences in motivation and compliance to the rules between the couples who wish to space their pregnancies and those who wish to limit their families. These findings are in line with the hypothesis that the use of NFP methods is highly influenced by psychological (behavioural), characteristics such as motivational level, and demographic characteristics (i.e. spacing or limiting of births) of the clients.

Wade et al (1967) conducted a comparative study of Sympto-Thermal and Billings method in Los Angeles and found out that at the end of the second year, 75.9 % (Billing users) and 64.7% (Sympto-Thermal users) had terminated their use - both due to accidental pregnancy (Population Reports, 1969), and thus concluded that the main problem associated with NFP methods is accidental (unplanned) pregnancies. However, the study found that causes of the pregnancies were not methods failure but user failure in that most couples found the abstinence period unnecessarily long and unacceptable and were tempted to take chances during the fertile phase (C.D.C. 1983), showing that difficulty in abstinence is indeed a significant factor hindering the use and acceptance of NFP.
Parenteau-Careau (U.S.A. study, 1978) reports that there seems to be greater error in applying a method when decision to avoid pregnancy is not based on the couples aspirations but rather on medical or social service professionals. These findings point to the need for more couples involvement themselves in the family planning decisions, a fact which supports the hypothesis that couple communication and marital relationship affects greatly the use of NFP methods (Ponzetti, et al, 1988). Most couples who choose NFP do so from a preference for natural methods rather than out of religious convictions (McCuster, 1977; Hefferman, 1977; Weeks, 1982), a contrast to the generally held claim that NFP use is characterized by religiosity mainly the Catholic (IFFLP, 1986). But it supports a research of Dorairaji (India, 1980), where 66.7% of users in the sample were non-catholics. These findings supports my hypothesis that NFP users are not characterized significantly by religion. Boys carried out a research in Oregon, U.S.A. (1984) on factors affecting clients satisfaction and usage of NFP found out that a high percentage of 440 clients reported high satisfaction in that it improves marital dialogue, love and shared responsibility (IFFLP, 1986), showing that increased couple's communication is an important advantage accruing out of NFP use, and is also an important characteristic of those that finally opt to use NFP methods.

Rice and Lanctot (1975) found out that natural methods to be generally acceptable despite the difficulties with abstinence,
while McCuster (1976), found that perceived benefits of NFP by users who had used it for at least 6 months included fertility awareness, greater spousal appreciation and religious consistency (Borkman, et al, 1983).

In Mexico, a research done in Mexico city by National Billings Centre for Family Planning (NBCFP) (1980-1983), found out that NFP users came from different educational and socio-economic levels. This is in line with the hypothesis that NFP is acceptable to people of all socio-economic and cultural backgrounds.

Irregular menstrual cycles have been listed as a disadvantage of NFP use (Hatcher, Stewart, Guest, Schwartz; 1980), with a major implication that extremely irregular cycles may require longer and sometimes unanticipated, periods of abstinence. Rogow, and Greenwood (1980) examined the successful use of fertility awareness methods, and confirmed the same problem. Contrary to this, however, Johnston (1981), found that clients who present large differentials in cycle length do not appear more prone to dropout.

Family planning intention is a key variable in the success or failure of contraceptive practice. Studies of contraceptive use have shown that regardless of the method used, couples who wanted to prevent further childbearing were less prone to failure than those who were delaying a birth that they ultimately wanted to have (Jones, Paul, Westoff, Ryder 1973; Westoff et al, 1967). Consistent with the contraceptive research, Rice, Lanctot and Garcia-Devesa
(1977) and Rogow et al (1980) found that those whose intention was to prevent pregnancy had a much lower failure rate than those whose intention was to delay pregnancy. Johnston (1981) found that family planning intention was a significant predictor of NFP continuance and discontinuance. Becker (1974) perception of success or failure (i.e. effectiveness) was a key predictor of NFP continuance. Other studies have analyzed attitudes towards NFP and Klaus (1979) and Tolor et al (1975) found that method satisfaction was much higher for those who continued with NFP than those who discontinued its use. Marshall and Rowe (1972) also reported high levels of satisfaction associated with NFP use.

Rainwater (1960) suggests that attitudes towards sexual intercourse and genitalia strongly influence contraceptive use, both in terms of method chosen and the regularity with which it is used, while Tolor et al (1975) found that the "failure" group tended to be more liberal towards sexual matters than the continuing group. Marshall and Rowe (1972) found that most NFP users experienced difficulty with abstinence but this had no apparent detrimental effect on the satisfaction of the method (Daly, 1983). The main reason for choosing NFP was the safety and lack of side effects in its use (71%), and the study also showed that NFP continuance correlates well with spouse encouragement, male participation in charting and encouragement from relatives to use the method.
2.0.4: SOUTH AMERICA:

Mena-Gonzalez (1984) found out that most of those who attended NFP services in Chile were middle or upper income class, and the motivation for their use was extra-religious, contrasting with the popularly held view that NFP users are mainly the poor and are religion-motivated, but Lanctot et al (1984) found that in Argentina most users were motivated by religious inclinations but he associated this with the fact that the teaching and service provision was parish-based, by catholic priests.

In Peru, a research done over 5 year period (1977-82) on NFP methods use found that a high level of use, mainly of ovulation method, but attributed this to the emphasis put on it by the service providers such as the teachers and co-ordinators (Lanctot et al, 1984). Another research in Peru on family planning prevalence (1987), by IISNFP, showed that a high percentage (40%) of women who have ever used a family planning method used a method based on periodic abstinence. In Haiti, a research by World Fertility Survey (1977), showed that the highest percentage of family planning users came from the NFP users, while Francois (1986) found that majority of users of NFP in Haiti were Catholics (66%) and were mainly illiterate (77%), which contrasted the generally held belief that NFP is more acceptable to literate, who being able to read, can easily chart the cycle changes.
A recent study in Italy found out that 16 percent of the fertile couples use NFP (IFFLP, 1986), of which only a small percentage uses the most effective among the NFP methods - BBT, Billings and the Sympto-Thermal, while majority uses the rhythm, which supports the hypothesis that the most commonly used NFP method is the Calendar-Rhythm. The objectives of the study were to verify the applicability of NFP methods, evaluate the correlation between Symptoms and Laboratory findings during the menstrual cycle, and to evaluate the pros and cons of periodic abstinence, and found out that satisfying marital relationship is the main perceived advantage (Barbato, et al, 1986). This supports the hypothesis that psychological (behavioural) advantages of enrichment of marital happiness and communication are not only the key to the use of NFP but are also significant benefits from the use of NFP methods. This study used 460 couples and found an unplanned pregnancy of 25 couples, of whom 13 wilfully performed intercourse during the fertile period-but according to the researcher abstinence is not impossible but rather depends on the individual's self control, motivation and high responsibility (Barbato, et al, 1986).

Freundle's study in West Germany on the previous knowledge and use of NFP (Klann et al, 1986), found out that highly educated women were more likely to have heard about NFP than women of lower education, showing that economic characteristics (proxied by education and occupation) have strong influence on the
acceptability and use of NFP. The study also found that there is no relationship between religious affiliations and the use of NFP, which disapproves or contrasts the widely held belief that NFP is a catholic method (IFFLP, 1986; Barbato et al 1986). This supports the hypothesis of this study that religion is not a significant characteristic of NFP users. A further study by Klann (Klann et al 1986) found out that factors of marital partnership especially communication contributes greatly to the increased acceptance and use of NFP methods. A study in England by Fragstein et al (1984-85), with the objectives of finding out contraceptive behaviour before adopting NFP, source of information, choice and reason of choice, found out that 52.4 percent had used oral contraceptives which contrasts with the hypothesis of my study that those who have had previous use of contraceptives are difficult to shift to NFP. But this could however have been biased, because of interviewing mainly those who formerly used the pill but my study addresses itself not only to the previous users of the pill but all other artificial methods such as the injectables and the IUDs.

In the same study Fragstein found that a low percentage (18.4%) expressed a problem on abstinence while majority (81.6%) said there was no problem (IFFLP, 1986), findings which differed from Tolor et al's (1975) who reported that low percentage (16%) found abstinence easy while majority (84%) found it difficult (IFFLP, 1986). These findings support the hypothesis of this study that difficulty in abstinence has great influence on acceptability and
use of NFP methods. Majority in Fragstein study experienced no psychosexual problems but 15.7% did and gave impotence/frigidity and premature ejaculation as some of them (IFFLP, 1986). According to the same study, the main source of information on NFP was friends followed by the church, a fact which showed that little publicity is being given to the NFP in hospitals or clinics. An interesting finding of the study (Fragstein et al's 1984-85) was the high non-participation of men, which may reflect the old idea that family planning is the responsibility of women, a case which cannot be accepted in NFP because joint participation is one of its pillars. Clubb, et al (1986) study in London area, on effectiveness of two approaches to teaching NFP methods, found out that group teaching on initial teaching was the most effective as compared with use of Audio-visual aids (IFFLP, 1986).

Kennedy, (1986) study in Ireland found out that majority of NFP users were spacers rather than limiters, while another study in the same country on use of NFP after childbirth found out that majority (84%) found it easy to use it after child birth, and concluded that during lactation, women can recognize signs of approaching fertility, no matter how long it is delayed (Billings et al, 1980).

2.0.6: ASIA/OCEANIA:

A study by Bernard (1984) in India on whether it is difficult or not to observe the mucus found out that a high percentage (82%) of the couples found recognition easy, a finding which supports the
fact that effectiveness in mucus observation determine use of NFP methods, for in this study those who discontinued were very few (9%) (Mascarenhas, 1985). Another Indian study, by Dorairaji (1986) investigated the acceptability of the modified mucus method among low income women, with the objectives of finding out acceptance rate, social, psychological, motivational, demographic and economic characteristics affecting use. The study found out acceptance to be higher (63.7%) for low educated women than those of high education and concluded that education made no significant contribution to non-use or use of NFP methods (Perez, 1986, IFFLP, 1986). In this study (my study), I investigated the validity of this conclusion because the general findings show that educational characteristic influences the use of NFP.

On age, it was found (Dorairaji, 1986; IFFLP 1986) that younger women accepted and use the NFP more than older women, perhaps due to the fact that older women may have completed their family size and have used terminal methods such as tubal ligation, whereas the younger women want NFP for spacing as they still want more children. A high acceptance rates characterized shorter duration of marriage among a significant figure of NFP users as a spacing method. Both of these findings support the hypotheses of my study that duration of marriage and age of the users affect the use of NFP methods. Another study (1978-79) of 1000 couples showed that a high percentage (66%) of users of NFP were christians, and others were either Hindus or Muslims, but no details were given on the
composition of the Christian groups, in terms of catholics and protestant, and thus fell short of showing whether religion is an important characteristic of NFP users (Billings et al, 1980), while Thorman (1984) found that majority (86%) of the users were illiterate, poor, Hindu women, which contrasted with the general conception that one needs to be highly educated in order to use NFP methods (Population Reports, 1982), and confirmed Mascarenhas (1981) that NFP can be used by all people regardless of their level of education.

Verzora et al's (1984) study carried out in 1980-81, in Philippines on perceived advantages and disadvantages of the NFP methods, especially the Rhythm- the most popular in the country, found out that advantages include no side effects on health, does not interfere with sexual intercourse like the condoms, and during safe days it allows spontaneous intercourse, while disadvantages included high failure rate among women with irregular cycles, requires long time of abstinence and is unsuitable for young couples for their sex appetite is still strong and need frequent intercourse.

On previous contraceptive use, it was found by the same study, that acceptance rate was higher for those who had used the safe period, since they were satisfied users of the method, while a large percentage of the non-acceptors had previous experience of contraceptives and were at that time (1986) using satisfactorily the reversible and irreversible methods (57%). It was therefore
concluded that non-use of NFP could be due to use of contraceptives, a finding which is in line with the hypothesis of this study that previous contraceptive behaviour affects the acceptance rate and use of NFP. A WHO Survey (1981) found that Rhythm was the most popular method in Philippines and its information was obtained from non-program sources like friends and was dominant because of lack of agencies offering instructions in the more modern methods and thus few clients had been exposed to such (Laing, 1984). In 1974, NAS (National Acceptor Survey) on NFP in Philippines found that NFP was preferred to artificial methods because of absence of side effects and convenience (no need to get supplies, have injection or interrupt sex act). But interestingly almost none mentioned religious or moral reasons for their choice (Laing, 1984), supporting the hypothesis of this study that religious affiliations has no significant influence on use or non-use of NFP, as is usually the claim of many, who even at times call it a Catholic Method (K.C.S., 1988).

In Bangladesh, a study (1982) with a Survey of 448 clients, found that 66% were literate and 66% were Christians and 60% were in age group 21 to 30 years (Lanctot et al 1984), while in Korea and Sri Lanka a WHO research (1981) found that the reason for choosing NFP in preference to contraceptives was not religious but that "it was not harmful" (71%), but found the greatest hinderance to NFP use as the difficulty in abstinence, especially for husbands during the fertile period.
An analysis of contraceptive data (1984) in Australia suggested that the use of rhythm and withdrawal, both associated with low social and economic status, was common and this was explained not only by the difficulty in gaining access to clinics but that the clients prefer subjective and interpersonal way of managing a demanding and potentially humiliating interaction with service providers. The hypothesis here is that people who feel that they lack the social skills to cope with an interaction with a third party, in which their sexual activity must be acknowledged, will prefer a "private" method such as the calendar or withdrawal that can be practised without recourse to outside advisers (Betts, 1984). The same study found that discontinuation rates higher for the Billings than the Sympto-Thermal with the claims that Billings method was too complicated to apply due to too many rules to apply (Johnston et al 1980). But a research by Ball (1976), of 122 ovulation method users found, use, acceptance and satisfaction high, while unplanned pregnancy rate was low (Billings, et al 1980).

2.0.7: AFRICA:

Despite the fact that in Africa periodic abstinence as a method of birth control, used in conjunction with breastfeeding is widespread, little research has been done on it and even national Natural family planning programmes have been established recently only in a few countries (Lanctot, et al, 1980), to teach the modern
NFP methods so as to replace the less effective traditional types. This is further proved by the fact that researches on NFP are scanty and sporadic all over the continent.

Most students of family planning in Africa have mainly concentrated on artificial methods (Contraceptives). A study by Cairo Demographic Centre C.D.C. (1987) on unmet need for family planning services, (Sayed, 1984; Sayed, 1986) addressed itself to modern contraceptives and no mention was made of NFP methods.

But the Mauritius contraceptive Prevalence Survey (MCPS, 1985) data on all methods utilized, revealed that 99 percent of women in the reproductive ages are aware of a contraceptive method, and NFP is known by almost 95 percent. Of all NFP methods, the temperature method seems to be more predominantly known (85.1 percent) and was also found that the more educated women seem to know more of NFP, a contrast to Indian study mentioned earlier, by Dorairaji (IFFLP, 1986). Difficulty with abstinence was found to be the chief cause of unplanned pregnancies and dislike of the methods (McSweeney, 1979). Both of these findings support the hypotheses that economic characteristics (proxied by education and occupation) in this study and psychological characteristics such as difficulty in abstinence and couple communication and motivational level, influence the acceptability and use of the Natural Family Planning (NFP) methods. According to Study by Juste (1983-1986) those who disliked and dropped out was a small percentage and the main disadvantage cited is difficulty with
abstinence (Lanctot et al 1984).

A research in Zambia by Cremins et al (1972-1983), found out that most of the clients are highly educated, but associated this with the less emphasis put on efforts to reach the less-educated and poorer classes and most acceptors are more interested in spacing and achieving pregnancies rather than limiting. But in Rwanda, a research done, (1979-80) showed that users come from varied socio-economic levels (Lanctot et al 1984), which is in line with the hypothesis that all people regardless of their socio-economic characteristics can use the method.

2.0.8: KENYA:

For sometime NFP in Kenya, has been under the custody of the Kenya Catholic Secretariat (K.C.S) and FLCAK, but of late due to high discontinuation rate of the pill, it has become necessary to incorporate NFP in the government maternal and Child Health/Family Planning Services (IFFLP, 1986).

This neglect of NFP has not only been in the service provision along but also in the research side. Indeed many students of family planning such as Murungaru (1982), Ikamari (1985) and Mungai (1986) among others mainly concentrated their studies on the artificial (contraceptive) method and NFP is only mentioned, and often termed as traditional rhythm method of abstinence. Therefore research on NFP in particular have not been done and information on its suitability, use and acceptance to the Kenyan society is not
available, except from the Kenya Catholic Secretariat and Family Life counselling of Kenya (FLCAK) (Guzzetti, 1980).

The first NFP government research was begun in 1985, carried out by the Kenya Medical Research Institute (KEMRI) with the objective of introducing NFP to the existing family planning services, to find out the NFP effectiveness on both breastfeeding and non-breastfeeding women, outline the general profile of NFP acceptor and to estimate the acceptability, continuation and drop out rates and factors contributing to the autonomy in NFP (IFFLP, 1986). This research found out that 60 percent of the users were non-catholics and most of them were breastfeeding, that many were educated and young couples who did not previously use any other method of birth regulation. It also found out that NFP is acceptable to diverse groups of users, a contrast to popularly held belief that NFP is religious-based, which supports my hypothesis that religion has no significant influence on NFP acceptability, and use. The reason given for preferring NFP was pregnancy spacing and child limitation, and in overall younger couples (15-29 years) used it for spacing while older ones used for limiting. Majority (75%) of the users were found to be young couples aged 20-34 years, (Kekovole, 1990), supporting the hypothesis of this study that duration of marriage affects the use of NFP.

On perceived advantages majority (81%) in urban areas and (68%) in rural areas gave the absence of side effects while others gave cheapness, creation of marital stability and marriage enrichment
through improved spousal communication, while the disadvantage given was its need for total devotion and commitment, which some cannot afford (Kekovole 1990; Kiura et al, 1990). One characteristics found to be paramount by the study on NFP acceptability and use was husband's co-operation, a fact which is also given by contraceptive users, for the husbands are said to be unco-operative. Some are drunkards and unwilling to co-operate during the fertile phase and so the women resort secretly to contraceptives. But Kiura et al's (1990) study, however, found a high level of husband's co-operation. Indeed husband's co-operation is an important determinant in acceptability of family planning in general and NFP in particular, for they (husbands) are the key decision makers in the family (Lanctot et al 1984), yet many are unwilling to co-operate with their wives in planning their families. A missionary in Kenya trying to promote NFP once reported "women show up by hundreds, but the men do not want to make the effort to keep the rules, even if they see the need to limit their families" (Johns Hopkins University, 1981). This is a feature which requires more research because it is unfortunate that today's man seems to have weaker wills to control their sexual urges, than the ancient man (McKewon, 1976).

Guzzetti (1980) studied NFP effectiveness among users in urban areas (Nairobi) and rural areas (Tinganga, Githunguri, and Othaya) and found out that majority of users in rural areas were catholics while in urban areas little difference exists between users of
various religious affiliations, but she explains this in terms of geographical location of religions in rural areas and lack of accessibility to the method due to distance and lack of NFP teachers in other denominations in rural areas; none of these factors exists in urban areas. Guzzetti (1980), like Kiura et al (1990) found husband's co-operation, an important determinant of NFP acceptability, and use and majority of users had a high level of education, as opposed to what is generally claimed: NFP is used mainly by the illiterates.

Guzzetti (1980), Gundy (1987), Kiura et al (1990) found that major advantages of NFP is absence of side effects, cheapness, and keeps them free from guilt which existed when using artificial methods, that it strengthens family ties and develops a deeper communication, enriched marriage dialogue, respect and more shared responsibility.

From the above literature review it can be seen that NFP programmes are quite new especially in Kenya. The government research under KEMRI - under Kiura (1990), was done in Nairobi and Muranga areas: Urban Vs rural. My research differs from this for I have concentrated only in Nairobi - an urban area. Secondly my objectives were to find out characteristics of NFP users, taking some selected characteristics on economic, demographic, socio-cultural and psychological. It uses primary data from the field using questionnaires, which though it has similarities to Guzzetti's (1980) and Kiura (1990), it departed from them in that
their cases were comparisons of rural and urban areas, but this study concentrated only on an urban population.

Guzzetti's (1980) also looked at only occupation, residence and religious variables, but my study goes beyond this to include many other variables, such as couple communication, age, ethnicity inter alia which made it more wider and detailed than hers. She also studied only NFP users but this study included users of artificial methods. Gundy's (1987) study was done in Eldoret rural area, not the town, and thus this study differs from it in that it addressed itself to urban population.

Further still their researches, Guzzetti (1980), Gundy (1987) and Kiura (1985-1990) were done a number of years ago and changes must have occurred through time, even in the same variables they analysed. This study therefore updates their findings, and follows-up on some of their recommendations and thus is able to meet the current needs of policy makers and NFP programmers and users. On the other hand studies by, Kimani (1982), Ikamari (1985), KCPS (1984) KDHS (1989), among others mainly dealt with the contraceptives and little was done on Natural Family Planning (NFP) methods, thus this study attempted to fill this gap.

2.0.9: CONCEPTUAL STATEMENT

To design a theoretical framework to provide tools of observation and to assist in identifying the psychological, economic, socio-cultural and demographic characteristics of users of NFP methods,
socio-cultural (Freedman et al 1974; Mandelbaum, 1974; Ndeti & Ndeti, 1977; Martin, 1981; Carneiro, 1986), economic (Mandelbaum, 1974; Easterlin, 1978; Dorairaji, 1980), psychological (Mandelbaum, 1974; Dorairaji, 1980; Klann, Boys, 1986), and demographic (Martin, 1981; Dorairaji, 1986) studies in Kenya and the world and various conceptual models have been consulted.

The psychological models as developed by Mandelbaum (1974), Dorairaji (1980) and Klann, Boys (1986) that describe innovative decision-making characterizing a greater competence in a specific sequences of actions such as seeking information, accepting it and adopting the behaviour as a result and then practising it. A supportive environment assures ready access to the information as well as the means of carrying out the behaviour and this is the objective of a national family planning policy.

Fertility control has been viewed in relation to demand and supply of children since it is these two concepts that determine the motivation for fertility control. At the same time socio-cultural, (Freedman, et al 1974; Mandelbaum, 1974; Martin, 1981; Fragstein, 1984-85) and economic (Mandelbaum 1974; Easterlin, 1978; Lanctot et al, 1984) characteristics affect fertility through the influence of demand and supply on the motivation to accept and use fertility regulation (Omagwa, 1985), and thus affect family planning practices (whether natural or artificial).

In fertility models such as Easterlin's framework, (1978), it is argued that demand for children and the partial output of children
fairly determine the motivation for fertility regulation (Mungai, 1986). But these factors (demand and supply of children) are affected by the socio-cultural, demographic, psychological and economic characteristics prevailing in a given area, yet at the same time these same factors directly affect the practice of family planning. In my study I have developed and adopted my theoretical study from these studies selecting the social, demographic, psychological and cultural characteristics of the individuals which have been found by the studies above to affect one's decision to use or not a family planning. In this the characteristics looked upon are mainly in relation to NFP users although characteristics of artificial users are also considered as a control and as a point of comparison.

From the literature review, some key analytical concepts have emerged which are useful for our theoretical statement. The statement is formulated as follows:

Natural family planning users have certain socio-cultural, demographic, economic and behavioural (psychological) attributes.

Each of these attributes (characteristics) are explained in the proceeding section.

2.1.0: DEFINITIONS OF ANALYTICAL AND OPERATIONAL CONCEPTS:

A: Demographic Characteristics:

These are client's demographic attributes which may encourage or discourage the use of a natural method of family
planning e.g. too many children, too few children, age of woman and man, number of living children, previous contraceptive use and duration of marriage. These have been found to affect the use of NFP methods as shown by the works of Martin 1981; Francois 1984; Thormann 1984; and Klann and Dorairaji 1986. Demographic variables taken for study are:

1. Previous contraceptive use: The methods of birth regulation which the individuals used before adopting the current method, whether an NFP method, pill, condoms etc. This is significant because it shows whether people are satisfied with a method or not and if not why.

2. Age: This is the age of the woman or the man when the interview was carried out, given in complete years. Its significance lies in the fact that it reveals how long one has been exposed to the various social, cultural and economic conditions which affect his/her decision making in regard to family planning.

3. Duration of marriage: The period in years in which a couple or an individual (man or woman) has been in a married state. Years spent in marriage state constitute a reasonable indicator of exposure to pregnancy especially among NFP users. However single mothers are still found especially with those using contraceptives and in such cases marital status rather than number of years in marriage is a better indicator of use and acceptability to a family planning method.

B. Psychological (behavioural) Characteristics:
These are characteristics that concerns the personality traits such as satisfaction, happiness, motivational level and other conditions which favour or hinder the use of Natural Family Planning (NFP) methods. These attributes have been found to affect NFP use as shown by studies by Mandelboum 1974; Dorairaji 1980, WHO 1981; Klann and Boys 1986. In this study psychological variables taken for study are:

4. Couple Communications: This concerns whether there is a free discussion between the partners (spouses) on when to have sex, what method to use in birth control, sexual feelings etc. This was quantified by asking questions which required a "yes" or "No" and thus the Nos and Yes were added up and percentages found for each. This characteristic is mostly significant indicator in the initial acceptance and continued use of an NFP method, for couple co-operation has been found to characterise the NFP users in many areas. This may not be so in artificial methods use where couple co-operation is not an essential characteristic requirement.

5. Difficulty in abstinence: This concerns whether the couple or one of them is impatient or unable to persevere abstinence difficulties during the fertile phase. It was quantified by asking the individuals questions requiring a "Yes" or "No" on whether abstinence during the fertile period is difficult or not. It is therefore an important factor in acceptability and use of an NFP, for it (NFP) greatly depends on complete periodic abstinence during the fertile days. This characteristics has been found to affect
use or non-use of NFP in particular.

C. Socio-cultural characteristics:

These are society's mode of behaviour and attributes which govern societal factors such as the influence of relatives, religious beliefs, ethnicity, social value of children etc on the natural family planning use as made clear in the works of Freedman 1984; Callagher, 1975; Daly, 1983; Ndeti and Ndeti, 1977; Francois and Thormann 1984; Carneiro, 1986 and Kiura 1990. The social cultural variables taken for study include:

6. Religion: This refers to religious affiliations of the individuals e.g. catholic, protestants, Islam etc. Given the common perception held by providers of artificial methods that NFP is only for catholics, it was deemed necessary that data on religion from all clients (users of NFP or artificial methods) be collected, to find out religious characteristics of NFP and Artificial users.

7. Tribal affiliation (ethnicity): This refers to the linguistic groups of the individuals, for example Kalenjin, Kikuyu, Luhya, Luo etc. Tribal affiliation may be important in family planning, since some tribes have shown propensity to use one method or another more than others (Odallo, 1985). This may be due to cultural, education or economic characteristics, but the issue is quite complex and possibly may need further research.

D. Economic characteristics:

These are economic characteristics which will either favour
or hinder the use of the Natural family planning methods such as high/low incomes, high/low level of education etc as shown by studies by Mandelboum, 1974; Easterlin, 1978; Dorairaji, 1980 and Freundle, 1986. The economic variables taken for analysis in this study include:

8. Occupation: This was categorized into a farmers managerial and unskilled workers. It describes the type of employment held by the clients (respondents). Indeed where occupations are diversified as in a town - like Nairobi, classifying people into varied economic characteristics and levels, occupation can be a good attribute to measure variations among users of family planning, in this case, NFP.

9. Level of education: The level of educational attainment of the clients e.g. none, primary, secondary, college or university education. It is used to mean the number of years a client has completed in formal schooling. Its significance in family planning acceptability and use lies in the fact that it can be a proxy to economic status together with occupation, and also education on it's own affects the attitudes towards family size and the need for birth control. Education also exposes one to various methods available of family planning and thus could be a good measure to acceptance of the methods.

E. Natural Family Planning Methods use:

This involves the knowledge and accurate use of such methods as the Calendar-Rhythm, Mucus-Ovulation, Temperature Method, often
grouped as periodic Abstinence (PA) or Fertility Awareness Methods (FAM). This involves the use of techniques that involve fertility awareness of the woman's fertility cycle and how to use it to achieve or avoid pregnancy. These are methods of birth control which apply the sign of fertility phases of woman and no use of chemicals, mechanical gadgets or operations.

2.1.1 **CONCEPTUAL HYPOTHESIS:**

The economic, demographic, psychological and socio-cultural conditions and characteristics of an individual are likely to vary from NFP users to Artificial users.

2.1.2 **OPERATIONAL HYPOTHESES**

(1) The couples/respondents characterized by previous contraceptive use are likely to be less receptive to NFP methods than others.

(2) NFP users are characteristically young people.

(3) NFP users are characterized by short duration of marriage, than Artificial users.

(4) NFP users are characterized by deep level spousal communication than artificial users.

(5) NFP users have less difficulty in abstinence than Artificial users.

(6) Religious affiliations as a characteristic does not vary between NFP and Artificial users.
63

(7) NFP users are characterized by high ethnic variations than artificial users.

(8) NFP users are characterized by high occupational status than the Artificial users.

(9) NFP users are characterized by high level of education than the Artificial users.

The following are the characteristics and independent variables discussed as relating to NFP users:

(1) Previous contraceptive behaviour

(2) Age

(3) Duration of marriage

(4) Couple/Spousal communication

(5) Difficulty in abstinence

(6) Religion

(7) Ethnicity

(8) Occupation

(9) Level of education

All of which are made in reference to NFP and artificial users (i.e dependent variables).
3.0.1 INTRODUCTION

Studies of Natural Family Planning (NFP) are relatively new in the field of demography and population studies in general. As such these NFP studies are beset with problems of availability and reliability of data as well as appropriate methods of analysis and definitions of arising concepts and terminologies.

This chapter covers the sources and quality of data, and the descriptions and explanations of the techniques that were used for data collection and analysis. It explains the sampling procedures and nature of interviewing of the clients during the data collection, giving also the centres that were visited for data collection. It further explains frequency distributions, percentages, and the mode as tools for data analysis, and how they were employed.

This study used primary data obtained directly from the field. Questionnaire (see appendix I), was used, comprising questions meant to obtain information on natural methods and the characteristics of its users. The use of primary data resulted in problems such as unwillingness of the clients to reveal their sexual behavioural issues and their real perceptions of NFP
methods.

3.0.2. SAMPLING AND SOURCE OF DATA

The geographical area covered by the study is limited to the administrative area of Nairobi - from which users and non-users of NFP (users of Artificial methods) were randomly chosen based on randomly chosen clinics. The clinics providing Artificial methods were classified under three groups:

(A) Family Planning association of Kenya (FPAK) clinics which include:
(1) Robeiro (2) Eastleigh, (3) Phoenix (4) Pumwani and (5) Kibera outreach. Here three were randomly chosen after assigning them numbers as given above and the following were sampled out ones with their respective number of clients that were randomly sampled: (2) Eastleigh - (20 clients)
(4) Pumwani - (15 clients)
(5) Kibera Outreach - (20 clients)

B) City Commission clinics Division I, which were also assigned numbers as follows:-
1) Kariobangi  2) Mathare Lions  3) Eastleigh 1
4) Eastleigh Lions  5) Pangani  6) Kariokor
7) Pumwani  8) Baba Ndogo  9) Lunga Lunga
10) Bahati  11) Jerusalem  12) Shauri Moyo
13) Umoja  14) Dandora  15) Mathare North
28) Hono Crescent. From this Division 1 group, four clinics were randomly chosen and the following were sampled out. The number in brackets shows the number of clients that were randomly chosen from each clinic:

(6) Kariokor - (20 clients)
(7) Pumwani - (20 clients)
(16) Dandora 1 - (30 clients)
(17) Makadara - (20 clients)

C) City Commission clinics Division II which were assigned numbers as follows:

(1) Lagos Road  2) Highridge  3) State House
4) Woodley   5) Standiford  6) Karua
7) Muthurwa  8) Waithaka  9) Riruta
10) Karen  11) Kangemi  12) Langata
13) Westlands  14) kahawa  15) Ngara

From this Division II group, three clinics were randomly sampled out, and their respective clients randomly chosen are shown for each clinic in brackets.
(9) Riruta - (25 clients)
(11) Kangemi - (20 clients)
(15) Ngara - (25 clients)

The total number of clients from clinics providing artificial services was 215.

From users of NFP methods, the services center within Nairobi, from which centers for study were chosen were numbered as follows;
1) Kariokor 2) Dandora II 3) Kenyatta N. Hospital CRC Office 4) Our Lady of Mercy Catholic Church 5) Makadara
6) Jamaa Maternity Hospital 7) St. Theresa's Church Eastleigh
8) St. Micheals Church Langata 9) Pumwani Maternity Hospital
10) Umoja 11) Kangemi Health Center 12) Kahawa Health Center
13) Ruiru Catholic Church 14) Lunga Lunga Health Center
20) Kenya Catholic Secretariat - Westlands 21) MaterMisericordiae Hospital. From these NFP centers the following were sampled out. The numbers in brackets show the clients that were captured during the interviewing period for every centre.
1) Kenyatta N. Hospital, CRC Office - (45 clients)
4) Our Lady of Mercy Catholic Church - (24 clients)
11) Kangemi Health Center - (35 clients)
20) Kenya Catholic Secretariat (KCS) - (40 clients)
210 MaterMisericodiae Hospital - (25 clients)

An additional NFP center outside Nairobi was included in the research - Nazareth Hospital - where 45 clients were interviewed. This was deemed necessary because it provides NFP services which others within Nairobi don't provide, it counsels clients with problems of infertility and thus who study the method to help them achieve pregnancy. This was also felt justified because the area - Nazareth Hospital - is close to Nairobi and the general population more or less have similar characteristics with their urban counterparts.

The total number of NFP users interviewed was 214.

Therefore a sample size of 214 NFP users and 215 Artificial users, totalled up to a sample size of 429 which was used for the study.

The table below shows the breakdown of the number of clients from artificial and NFP centres and their respective grand totals.
### TABLE 3.0.2 (A): NUMBER OF CLIENTS FOR NFP AND ARTIFICIAL CENTRES CAPTURED IN THE STUDY.

**NUMBER OF CLIENTS**

<table>
<thead>
<tr>
<th>ARTIFICIAL USERS</th>
<th>NO. OF CLIENTS</th>
<th>NFP USERS</th>
<th>CENTRES</th>
<th>NO. OF CLIENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastleigh</td>
<td>20</td>
<td>Kenyatta N.H.</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Pumwani (FPAK)</td>
<td>15</td>
<td>Our Lady of Mercy, Catholic Church.</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Kibera outreach</td>
<td>20</td>
<td>Kangemi H. Centre</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Kariokor</td>
<td>20</td>
<td>Kenya Catholic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pumwani (City Commission)</td>
<td>20</td>
<td>Secretariat, (KCS)</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Dandora 1</td>
<td>30</td>
<td>MaterMisericordiae Hosp.</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Makadara</td>
<td>20</td>
<td>Nazareth Hospital</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Riruta</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kangemi</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ngara</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>215</strong></td>
<td><strong>Total</strong></td>
<td><strong>214</strong></td>
<td></td>
</tr>
</tbody>
</table>

The study examined the characteristics of users of NFP and users of artificial methods and perceived advantages and disadvantages (problems) as obtained from both NFP and artificial users' perspectives, and is based primarily on the collected data using a questionnaire (see appendix I), administered to residents of Nairobi area, who visited the clinics or service centers on the dates of the interviews. Those affected included males and females regardless of marital status, in Nairobi at the time of the interview (January to Mid-March 1990), aged 15 and above.

For purpose of this study the population selected include people who are currently (January - Mid March 1990) using some form of
family planning: NFP or artificial methods. The group was chosen for the simple reason that they have been exposed at least to the natural and or artificial methods and therefore was seen as a group that would give the appropriate and relevant responses to the questionnaire items. The clients included skilled workers, unskilled, professionals and other types of occupations like farmers or housewives, who must have been using the family planning method for at least 6 months prior to the interviewing period (January-Mid March 1990).

The clients were randomly chosen and this is an adequate representative of users and non-users of NFP in Nairobi. The study is based on a sample of 429 (214 NFP users and 215 artificial users). Questions were put to the clients and answers obtained were recorded and coded on the spot for those who were illiterate or could not understand English, but the literate ones were given the coded questionnaires to fill individually with supervision from the researcher or his research assistants. The same instrument (questionnaire) was administered to users and non-users of NFP methods.

3.0.3: NATURE AND QUALITY OF DATA

The data is primary in nature and despite problems and limitations encountered during the collection as given later in the chapter, the data is of adequate quality. This is because the clients were
briefed on importance of being honest, truthful and assured of anonymity and confidentiality attached to the information they presented. The two research assistants were trained before going to the field on how to approach the clients, translation techniques, recording techniques and confidentiality on what the clients confide in them. The research assistants were of adequate education level to carry out research; a university and a college graduates and therefore were adequately able to interpret and collect the data as required. Simple random sampling technique was used to pick on clinic to be visited and individual clients interviewed were randomly chosen, and this at least ensured representativeness of both the users and non-users of the population they were chosen from: family planning users in Nairobi.

However, problem of language was encountered and might have affected the quality of data as some of the clients were illiterate and interpretation and translation of the question items into the language they could understand might not have been adequately done and can not be assumed so for it is practically impossible, and some might have misunderstood the questions. After all some of the terminologies used such as ovulation, natural methods etc might not have been familiar terms especially with artificial users and often have no equivalent words on some of the local languages. Despite all theses problems and others given later in the chapter, it is significant to note that data collected were of adequate quality and thus the findings from the study are generalizable.
3.0.4; METHODOLOGY OF DATA COLLECTION.

3.0.4.1: INTRODUCTION

As explained earlier, the questionnaires used were filled by individuals (for literate clients) with help of researcher or by the interviewers (research assistants) for the case of the illiterate clients. The sample size was 429: 214 NFP users and 215 artificial users.

3.0.4.2; SAMPLING DESIGN.

In many studies, it is impossible for the whole population to be enumerated either because the population is too large or the operation too expensive or because only limited time is available for research (Kangi, 1978). This inability to enumerate the total population necessitates the use of a sample. Sampling involves drawing out of certain units of the selected units which are representative of the parent population and from the drawn sample one can make inferences about the parent population. If a sample is drawn out following certain specified statistical principles, it is possible to compute valid estimates about the population characteristics on the basis of the sample. At the same time, the author aimed at drawing a sample that would provide maximum accuracy for the available time and money and also minimizes sampling and non-sampling errors.
In order to arrive at a suitable sampling design various aspects were considered:

1) The data requirements. The collected data needed to be measurable in order to derive sample estimates of the population.

2) The practicability of the sampling techniques. Various sampling methods were evaluated on the basis of whether they were practicable in collecting data within the limited time.

3) The sampling was aimed at a sample that would be representative and one that would allow precise measurement of population characteristics at a minimum cost, given fund limitations, and

4) The need to eliminate or minimize biases.

In collection of data the main concern of my sample, like in any sample was need for representativeness and to achieve this all cases in the target population (users of NFP and artificial methods) were given equal chance of being picked and this was assured by use of simple random sampling technique. Indeed, if a random sample is achieved, not only is its representatives assured but also the sampling error is minimized (Moser and Kalton, 1979, Phillips, 1985). The method used in this study was simple random sampling technique. This is a probability sampling procedure in which each element of the population has a equal chance of being chosen. This technique is most useful in assessing external
validity i.e. the degree to which statements about the specific phenomena investigated (the sample) can be generalized the other settings (the population) (Phillips 1985). Therefore, all those who attended the clinic (for NFP and artificial services) on the interview dates, were interviewed without regard to ethnicity, religion, age etc, thus a cross-section of the clients were interviewed which assured representativeness, and therefore findings of the study are generalizable to the general population.

The interviews were done for those who visited the service centers when the researcher or research assistants were in the centers on the dates, and no reference were made to the clients cards. On sex, no specification were made. Those who came to clinic were interviewed regardless of sex and as is often the case, few males were interviewed as most service attenders are females, even for male orientated methods like condoms, females are the ones who often go to collect for their spouses. Therefore much of the information about males were obtained from women talking about their husbands, although the few (80) males interviewed confirmed some of the information given by the women such as finding it difficult to co-operate & discuss family planning affairs with their wives. Most males kept shifting responsibility to their wives or partners for the unmarried.
3.0.4.3: QUESTIONNAIRE

A questionnaire was administered on the respondents in order to obtain the required information for this study. The type of questionnaire used was personal interview. This was preferred because it gave the opportunity the researcher to explain any difficult questions or any that were likely to be misunderstood by the respondents. Moreover, it allowed the researcher and his assistants to ask probing questions in order to get correct and more honest and relevant answers from the respondents and especially in matters concerning their intimate sexual affairs as concerns their family planning intentions, attitudes, motivation and goals.

Administering this type of questionnaire proved to be very expensive in a way of time because the respondents had to be given a lot of time, often up to 30 minutes per person, for explanation and clarification of the 26 questions that were involved. Moreover, since a minimum of 400 respondents had to be interviewed, within a short time (2 and a half months), two research assistants were employed to help in the interviewing. The researcher spent time in training assistants and explaining them the question items, and in supervising them as they administered it - at least at the initial stages. The researcher and his assistants had to be fluent in Kiswahili and English in order to be able to administer the questionnaire to any respondent. The interviewing was done from January 1990 to middle of March 1990, and on the whole it was quite
successful.

In this study, a structured questionnaire was preferred to unstructured every respondent with identical questions which were arranged in the same order. Thus, the questions were standardized and did not give room for the interviewers to modify them. Furthermore, it enhanced the recording and coding of data and also yielded data that were quantifiable, which was crucial for this research. Both closed and open-ended questions were used. The researcher formulated the questionnaire after formulating the concepts, objectives and hypothesis, and at the same time being sensitive to the wording and ordering of the questions in order to facilitate maximum response and accurate answers.

3.0.4.4: EDITING, CODING AND TABULATION:

In this study, information obtained from the questionnaire was transferred to coding sheets using appropriate numerical codes for various answers given. The coding was rechecked many times to ensure that no mistakes were done, a process often called data cleaning. Tally and cross tabulations were done for various characteristics and frequency and percentages tables were produced showing the variations of these characteristics. Computation of the data was done using the statistical package for social sciences (SPSS).
3.0.4.5: **SCOPE, PROBLEMS AND LIMITATIONS OF DATA COLLECTION.**

The geographical area covered by the study is limited to the administrative area of Nairobi - from which non-users of NFP (i.e. users of artificial methods) were randomly chosen based on randomly chosen clinics, as explained earlier. The same was done for NFP users except that Nazareth Hospital was included, though outside Nairobi administrative area, for the reasons stated earlier.

A sample size of 214 NFP users and 215 users of Artificial Methods - all totalling upto a sample size of 429 respondents. A larger sample than this was not possible due to limited time (only two and half months) and funds available for data collection.

The study also addresses itself to some, not all characteristics of NFP users and therefore is limited to some selected social, economic, demographic and behavioural characteristics and attributes of the Natural Family Planning (NFP) users. However it should be noted that other characteristics associated with NFP users not touched in the study are also important, and their being left out in the study was only due to limitation of time and funds available for the study. Therefore future researches could be directed to such attributes such as age at first marriage etc.

The target population comprises of people aged 15 years and above, regardless of sex and marital status. However data on singles as far as users of NFP methods were concerned were not
available because the centres offering such services serve mainly married couples.

The funds allotted for the research and thesis writing as a whole was very limited and not sufficient to employ sufficient number of research assistants and thus data collected was mainly by the researcher himself. Time allocated was also limited for wider and intensive research.

In some of the clinics offering artificial methods, the personnel were often unco-operative and some of them often warned the researcher not to mention any disadvantages of the contraceptives as he interviewed them. One of the personnel even said "I hope you have not come to tell our clients not to use artificial methods, because we do not want them to trouble us when you will have left". Some could not readily provide room or space where to meet and interview the clients. While others could select clients to be interviewed based on tribal, relatives, friends etc and often excluded their close friends and those in 'high' positions in jobs from being interviewed, usually with the claim that they were so much in a hurry. This thus could have created some biases in the sample.

Also heavy rains coincided with the interview period (January - March 1990) in the area - Nairobi, which often made things more difficult since the researcher and his assistants were using public
transport, and often on foot.

Some of the contraceptive users were very apprehensive and indeed prejudiced against the natural methods of family planning and therefore were often unwilling to not only answer questions about it, but even to talk generally about it. Most would say "it is bad", but pressed further to say why they think so, they often gave no respond or that they "had heard so from a friend". Some even threatened not to come to the clinics again if such questions were going to be asked again. While some felt that their private lives were being probed too much, despite the continued assurance given that everything was going to be treated with high confidence.

Some of the clients especially the highly educated - a degree graduate and above, were difficult to deal with; either they kept criticizing the questionnaire items that they were against African culture or they felt that such interviewing is meant for the illiterate, rural folk and not for them as they felt they were too senior for such interviewing. Some often said they had not time while others wanted to be paid to fill them. Some even questioned the relevance of the research to them personally as individuals.

Another problem was language barrier. Some of the clients/respondents were illiterate and could not understand English and thus interpreting the questions into the language they understood - usually Kiswahili, was not only time-consuming but also much of the meaning was presumably lost.
The problems associated with questionnaire technique of data collection such as forgetfulness of the respondents due to memory lapse especially in matters which occurred some years back or which at times are painful to remember. Also deliberate intention to mislead by the respondents was often encountered such as on sensitive and questions touching on their private lives. Such questions included "Do you discuss freely with your spouse about your sexual feelings and do you personally find it difficult to abstain sex during the fertile phase?", to which many would say 'Yes" and "No" respectively. Yet when probed further, they would give information which often revealed the opposite.

3.0.6: METHODS OF DATA ANALYSIS:

3.0.6.1: INTRODUCTION:

This study, being a study on characteristics of NFP users, trying to find out the characteristics that are common and unique to NFP users as compared to Artificial users, does not go to the more and higher level statistical techniques such as the chi-square and regression. These were seen to be unsuitable because, the study's objectives were not on determination of relationships, but to find out what characterizes NFP users, as a basis for future research.

Chi-square is a technique used for determining whether or not a relationship exist between variables. Its principal use is the testing of null hypothesis i.e. that there is no relationship between two nominal variables . Its formula is:–

\[ X^2 = \sum \frac{(O-E)^2}{E} \]

where O is observed number of cases and E is the expected number of cases.

The simple regression model is given by \( Y = a + bx \), where \( Y \) = value of
dependent variable and a & d are constants and x is the value of independent variable. It is used for predicting changes in the dependent variable given changes in the independent variables and was found not appropriate for the study as the main objective of the study was to find out what characterizes NFP users and not prediction. Demographic techniques were not used because they needed more data than was obtained on the researches. They were not also appropriate for the study.

1) **Coale-Trussel Model**

This technique of fertility analysis is based on the assumption that marital fertility either follows natural fertility (when deliberate birth control is not practised) or it departs from natural fertility with increased age and use of intesventional methods like contraceptives. This was not used because data on breastfeeding, age at first birth, age at first marriage, social and health factors required by the model were not obtained during the data collections stage as it was seen as beyond the scope of the study. The Coale-Trussel model is given by: \( \phi(x) = Mh(x)\delta(x) \), where:

- \( \phi(x) \) - Marital fertility at age x
- \( h(x) \) - Natural fertility
- \( M \) - Level of natural fertility that population would experience in absence of all voluntary control.
- \( \delta(x) \) - A function of age indicating the typical pattern of departure from natural fertility when voluntary control in exercised.

2) **Relational Compertz Model**:

Here Brass reduced the number of parameters determining the
shape of age specific fertility from three required by Coale-Trussel model into two by postulating a relational scheme between "standard" fertility schedule and any other schedule giving his model as:

\[ \frac{F(x)}{TF} = \exp(A \exp(Bx)) \]

where:

- \( F(x) \) - Cumulative fertility at the age - \( x \).
- \( TF \) - Total fertility
- \( \frac{F(x)}{TF} \) - The proportion of total fertility experienced up to age \( x \), and \( A \) and \( B \) are constant \( A < 0 \).

This method was not used because data on cumulative and total fertility required by the model were not obtained during the data collection stage.

3) Brass P/F ratio Technique.

This was not also used because it required information such as:

a) Life time fertility
b) Number of children ever born (CEB) given by a 5 year age groups of mothers,
c) Number of children born during the year proceeding the survey by 5 year age group of mother.
d) The total number of women in each five year age group and
e) Total population for birth rate has to be calculated.

NB. Much of this information was not available, and thus the models could not be applied.

The researcher therefore found it sufficient to use the descriptive statistics such as the, polygons, percentages, frequencies, modes, cross-tabulations for data analysis.
3.0.6.2: FREQUENCY DISTRIBUTIONS

A listing of all of the scores that compose a group of data is not, in itself very helpful to one who wishes to understand the pattern of scores in a group as a whole, it is not sufficiently succinct. An especially organized listing, called a frequency distribution together with certain summary numbers, computed from it called statistics provide the necessary aid.

This was used by the researcher to find out how, various variables (distributional characteristics) were spread over the NFP and artificial users.

3.0.6.3: USE OF PERCENTAGE:

This study made use of percentages because it is an easy transformation of the proportion. A percentage according to Dornbush 1955; Watson 1980 is a proportion multiplied by 100. The percentage probably was invented by a person who got confused by decimals, often associated with proportions. Thus a proportion of 0.28 is 28 percentage which is more advantageous because of its clarity at a first glance.

Researchers have demonstrated some confusion about how precisely one should compute the percentage. One rule of thumb is that the percentage should be only as precise as necessary to recalculate the frequency on which the percentage is based.

I used the percentage as a tool to analyses how the various characteristics under study such as age, duration of marriage, among others varied per NFP and artificial users.
3.0.7: SCOPE AND LIMITATIONS OF DATA ANALYSIS

In data analysis, I used group data, frequencies, percentages and lots of information could have been hidden in process. Some of the weaknesses associated with these methods of data analysis which were met include:

(1) For the mode, where there is a rectangular distribution it is indeterminate.

(2) The descriptive statistics in general being summary statistics, do not reveal minor details, which may be significant in the research.

(3) The theoretical statement I used for the study was my own formulation after reading quite a lot of demographic, socio-cultural and behavioural studies that have been carried on, on NFP in different parts of the world. However no appropriate theoretical model was procured.

Despite all these limitations it should be noted that the quality of the information and analysis and findings of this study are of adequate quality for generalization and for recommendations for further research and policy measures (action).
CHAPTER FOUR: DATA ANALYSIS AND FINDINGS:

4.0.1. INTRODUCTION:

This chapter deals with the presentation and analytical interpretation of the results. As was pointed out earlier in Chapter three, this study, employs simple percentage, frequency distribution and graphical presentations as tools of data analysis.

This chapter has been divided into two sections: A and B for analytical purposes.

Section A covers examination of social, economic, demographic and behavioral characteristics of the current users of Natural Family Planning (NFP) and Artificial methods, while section B deals with, NFP methods preference, advantages and disadvantages (problems) as viewed from both NFP and Artificial users.

4.0.2. SECTION A:

CHARACTERISTICS OF NFP AND ARTIFICIAL METHODS USERS.

ETHNICITY: Ethnicity or tribal affiliation is an important indicator of people's cultural and social mores, which may affect use of a family planning method. In most cases it has been found that socio-cultural background greatly affects how one would accept new ideas and technologies and family is no exception (Ndeti, C.)
et al, 1977). On this study a question on ethnicity was asked as to find out how it determines how use of NFP and artificial varies from one culture to another, used as a proxy to socio-cultural characteristics. However, it should be cautiously noted that since the study was done in an urban setting, effects of urbanization might have lowered the former traditional values and ideals which would greatly determine family planning use. All the same the characteristic is still a strong one as most urban Kenyans still have strong attachment to their cultural background.

Table 4.0.1., below shows the percentage frequencies of those using NFP and artificial method based on their ethnicity:

<table>
<thead>
<tr>
<th>ETHNICITY</th>
<th>NFP USERS</th>
<th>ARTIFICIAL USERS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FREQUENCY</td>
<td>PERCENT</td>
</tr>
<tr>
<td>LUHYA</td>
<td>28</td>
<td>13.1</td>
</tr>
<tr>
<td>LUO</td>
<td>28</td>
<td>13.1</td>
</tr>
<tr>
<td>KIKUYU</td>
<td>101</td>
<td>47.2</td>
</tr>
<tr>
<td>MERU</td>
<td>30</td>
<td>14.0</td>
</tr>
<tr>
<td>KALENJIN</td>
<td>14</td>
<td>6.5</td>
</tr>
<tr>
<td>OTHERS</td>
<td>8</td>
<td>3.7</td>
</tr>
<tr>
<td>TOTAL</td>
<td>214</td>
<td>100.0</td>
</tr>
</tbody>
</table>

As revealed from the table above generally more or less
numbers of people from the various ethnic groups tend to use NFP and the artificial methods. The largest number of users of both methods are the Kikuyu 47.2% and 46.0% for NFP and artificial methods respectively. This could be explained by the fact that majority of Nairobi residents are Kikuyu as is found within their original tribal territory. Majority of districts surrounding the city are also inhabited by the same ethnic group for example Kiambu and Muranga. The least users are Kalenjin (6.5%) for NFP while for Artificial method it is the Meru (7.0%). The Luhya, Luo and Kikuyu have more or less equal percentages of NFP and Artificial method users.

However, the information reveals the fact that ethnicity in the city does not very much influence the use of a family planning method at present, and this could be explained by the fact, mentioned earlier, that urbanization, and education influences have broken down the various cultural values which formerly inhibit or encourage the use of any family planning method. It is therefore imperative to note that if clients are exposed to all methods of family planning, many will like to prefer NFP to artificial, because despite its lack of strong and wide publicity it is still used by almost an equal or more people than the artificial methods, regardless of ethnic backgrounds. This nullifies the hypothesis of this study that NFP use varies ethnically.

AGE: Age given by the number of complete years since birth is an important characteristic in study of any family planning
acceptability. It reveals how long one has been exposed to the various social, cultural and economic factors which in the process have shaped his way of thinking about life's issues one of which is family planning. A question on age was asked to find out whether use of various methods vary or not with age. Age was grouped into seven categories as shown below in table 4.0.2.

**TABLE 4.0.2.**

**VARIATIONS IN USE OF NFP AND ARTIFICIAL METHODS ACROSS AGE-GROUPS.**

<table>
<thead>
<tr>
<th>Age group</th>
<th>NFP USERS</th>
<th>ARTIFICIAL USERS.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>frequency</td>
<td>percent</td>
</tr>
<tr>
<td>15-19</td>
<td>2</td>
<td>0.9</td>
</tr>
<tr>
<td>20-24</td>
<td>30</td>
<td>14</td>
</tr>
<tr>
<td>25-29</td>
<td>88</td>
<td>41.1</td>
</tr>
<tr>
<td>30-34</td>
<td>50</td>
<td>23.4</td>
</tr>
<tr>
<td>35-39</td>
<td>18</td>
<td>8.4</td>
</tr>
<tr>
<td>40-44</td>
<td>13</td>
<td>6.1</td>
</tr>
<tr>
<td>45 +</td>
<td>13</td>
<td>6.1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>214</td>
<td>100</td>
</tr>
</tbody>
</table>

From the table above it can be seen that there is a diversity in variations in the use of NFP and artificial methods throughout the given age groups. Low percentages were found at lower age groups (15-19 yrs), while the largest percentages for both groups are in age groups (20-24 & 25-29 yrs), and reduction in users for
both methods start after age 30. This finding contrast significantly from the usually held findings by various people (Dorairaji, 1986; Hampton, 1987; John Hopkins, 1981; Betts, 1984) that NFP is mainly used by old people whose sexual appetite has decreased or because by then they have used terminal methods, and therefore unsuitable for young couples at their prime reproductive periods (20-34 yrs). These findings however confirm the finding of studies done by KEMRI (Kiura, et al, 1990) that age variations among users of NFP and artificial methods do not significantly exist. It therefore proved that NFP can be accepted by all people regardless of their ages. It also confirms the findings of the study done in Australia by Callagher (Lanctot(ed), 1984) that the peak age group for NFP users like in the artificial methods is 20 to 30 years. And as can be seen from the table above and many other researches (KFS 1977/78; KCPS 1984, KDHS 1989) this is the peak age group for artificial users. It shows therefore that age doesn't vary in users of the two groups of methods and therefore NFP can be a perfect substitute for artificial methods as a method of fertility regulation during the peak of reproductive life span (20-34yrs).

However, it is notable that at lower ages (15-24 years) the number of NFP users are generally fewer than those of artificial users. At 15-19 age group NFP users have 0.9% while artificial users are 5.1%, almost six times the NFP users. Age group 20-24 have 14% NFP users while artificial methods have 27.9% users, double the NFP users. This pattern is however, broken is age groups 25-29, 30-34 and 35-39 where both methods have more or less
equal numbers of users. Here percentages for the NFP and artificial methods are (41.1%, NFP and 39.5% artificial for 2-29 years age group; 23.4% NFP and 15.3 artificial for 30-34 years age group and 8.4% NFP and 6.5% artificial for 35-39 years age group). At higher ages percentages are higher for NFP than artificial methods as shown by 6.1% NFP and 3.7% artificial users at age 40-44 years age group and over 45 years NFP and artificial have 6.1% and 2% respectively.

These variations could be explained by the fact that NFP services are not usually provided to young and unmarried people unlike the artificial methods. Therefore there are likely to be fewer clients for NFP at these ages. For higher ages, NFP users have higher percentages than artificial users possibly because most artificial users tend to use terminal methods like tubal ligation by age 30 years and thus their lack of attendance to the service centres. But NFP usage continues and even some after menopause still attend the clinics as they monitor their fertility changes. Nevertheless in general terms the trend of users for the two methods tends to be more or less the same.

When age and number of users of NFP methods of this study are graphically presented they give an inverted U-Shaped pattern common with artificial methods with the modal age at the peak of reproductive period (See graph below).
GRAPH 4.0.0: GRAPHICAL REPRESENTATION OF NFP AND ARTIFICIAL METHODS GIVEN PER AGE GROUP.
It therefore means that NFP is not used by too young or too old people as is usually claimed by many like (Hampton, 1987 and Dorairaji, 1986), but is used by people at the peak of reproduction like in all other methods according to my findings in Nairobi.

The higher frequency of artificial users at younger ages than with the NFP users is explained by the fact that artificial methods are provided by the clinics to the young and unmarried woman, a feature which is not found with NFP services, for the are meant for married couples. Indeed the latter (NFP) deserve the name of "Family" planning as oppose to the other which even adolescents are using despite the fact that they have no family to plan.

**SEX:** Sex which here refers to the male and female (or man and woman) is an important characteristics which affects the use of any family planning method. In many cases, it is the females who take the initiative (Lanctot, 1984), yet for family planning to work effectively, both sexes are required to co-operate, and this is more so with the Natural Family Planning (NFP). Below is a table showing the percentage of males and females which were captured in the sample.
Table 4.0.3: PERCENTAGE OF MALES AND FEMALES IN THE SAMPLE FOR BOTH NFP AND ARTIFICIAL USERS.

<table>
<thead>
<tr>
<th>SEX</th>
<th>NFP USERS</th>
<th>ARTIFICIAL USERS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FREQUENCY</td>
<td>%</td>
</tr>
<tr>
<td>NO RESPONSE</td>
<td>4</td>
<td>1.9</td>
</tr>
<tr>
<td>MALE</td>
<td>39</td>
<td>18.2</td>
</tr>
<tr>
<td>FEMALE</td>
<td>171</td>
<td>79.9</td>
</tr>
<tr>
<td>TOTAL</td>
<td>214</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>FREQUENCY</td>
<td>%</td>
</tr>
<tr>
<td>NO RESPONSE</td>
<td>3</td>
<td>1.4</td>
</tr>
<tr>
<td>MALE</td>
<td>44</td>
<td>20.5</td>
</tr>
<tr>
<td>FEMALE</td>
<td>168</td>
<td>78.1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>215</td>
<td>100</td>
</tr>
</tbody>
</table>

From the table it is clearly seen that for both NFP and artificial methods the male participation in terms of attending counselling services units or clinics is still very small. Majority of those who appear in the clinics are the females and thus the research was able to capture a larger percentage of females in both groups: 79.9% and 78.1% for NFP and artificial methods respectively while for male (18%) and (20%) respectively. It is therefore imperative to note that men's participation still lags far behind and thus requires more motivation and persuasion to attend the clinics or centers for NFP services. However, though few men attend clinics in both groups of methods, most women who attend NFP centers claimed that they "have husband's consent" while those for artificial said they attend the clinics secretly without the husband's consent. The problem here lies with the fact that artificial methods by nature are biased towards the woman and man is often left out yet he is an active participant in reproduction. No wonder therefore that most men think that family
planning is meant for women, a view which has continued to hinder the implementation of all family planning policies. NFP can be a cure to this problem, as it requires the co-operation of the male.

**RELIGION:** Religion as a variable (characteristic) in this study is taken to mean all religious affiliations to which the respondents belong. It include religions such as catholic, protestant, hinduism and Islam. Religion is important in making decisions to use or not use family planning method. Some religions (eg. Catholic) totally forbid the use of contraceptives while others are liberal. But despite all this, this variable was taken here especially to find out the validity of the general claim that NFP is a catholic method and thus used only by the Catholics (KCS brochure, 1989, Guzzetti, 1980.) The table below shows the frequencies and percentages of users of NFP and artificial methods according to religious affiliations as captured in my study.
The data reveals that a higher percentage for both methods are found among the protestants and the catholics. However, Catholics are more (51.4%) in NFP group than the protestant (45.4%), while with the artificial methods the highest percentage is with the protestant (46.5%), while Catholics were (34.9%). The other religious groups are very negligible in the two groups of methods. It could also be explained by the fact that majority (30%) of the city's christians are catholics (Downes. et al, 1989) The explanation for the higher percentage of Catholic users in NFP could be because the clinics that provide those services are basically Catholic centers, for example Kenya Catholic Secretariat and even the personnel are mostly catholic in faith, which could have encouraged their fellow catholics to use the methods. However, it is clear that still a large number of protestants are

<table>
<thead>
<tr>
<th>RELIGION</th>
<th>NFP USERS</th>
<th>ARTIFICIAL USER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FREQUENCY</td>
<td>PERCENT</td>
</tr>
<tr>
<td>Catholic</td>
<td>110</td>
<td>51.4</td>
</tr>
<tr>
<td>Protestants</td>
<td>97</td>
<td>45.3</td>
</tr>
<tr>
<td>Muslim</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>Traditionalist</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>Hindu</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>None</td>
<td>2</td>
<td>0.9</td>
</tr>
<tr>
<td>Others</td>
<td>2</td>
<td>0.9</td>
</tr>
<tr>
<td>TOTAL</td>
<td>214</td>
<td>100</td>
</tr>
</tbody>
</table>
using NFP despite the fact that their church doctrine does not strongly forbid the use of the artificial methods, and most protestant clinics provide artificial methods rather than NFP. On the other hand many Catholics (34.9%) use artificial methods, showing that religious affiliation is not a strong factor in determining which method to use (Twin cities, 1986) but rather the availability. It therefore calls for a need to provide all methods in the Family planning clinics so that clients can choose which to use with informed consent choice. In other words, the provision of NFP should be provided in the government family planning clinics and given its due support by the personnel. There is also need to give all information; advantages and disadvantages of all methods so that when clients decide for a particular method, they do so with informed choice, a contrast of what is being done in many clinics providing artificial methods currently.

DIFFICULTY IN ABSTINENCE: Here this variable is taken for study because in most cases it has been found to be the hallmark of acceptability and continued use of NFP methods. Difficulty in abstinence is used here in reference to any psychological, psychosexual and marital hardships that a couple or any of the spouse find in abstaining from intercourse during the fertile phase of the wife's cycle. Questions were posed to the clients, both of NFP and artificial methods, as to find out how they feel about abstaining during the fertile period of the woman's cycle, whether they find it hard or not, and the information is given in the table below.
Here in this table, it can be seen that a very small percentage (1.9%) of NFP users find abstinence during the fertile period difficulty while a large percentage (68.7%) have no difficulty. Those who at times find it difficulty is 16.0%, which is a significant figure. A research could possibly be done to find out what circumstances and situations make some of the users to find difficulties in abstinence. On the other hand a significant percentage (24%) of artificial users find abstinence difficult while a large percentage (42.8%) of them face no difficulty. This could be a group of clients who could easily use NFP if provided because abstinence is one of the major factors to acceptability of NFP as is shown by some studies (Lanctot et al 1984; Borkman et al, 1986) that difficulty in abstinence is hinderance to widespread use of NFP. What is possibly required is educational approach that emphasis the valuable aspects of abstinence so as to arrest the frequently held negative notion about it (Martin 1979). This is also important for all the other family planning methods - so as
to eradicate the idea, commonly held by men, that family planning is the responsibility of the woman alone.

DURATION OF MARRIAGE. Duration of marriage has been found to influence the use of a particular method of family planning by the clients, because it often determine the motivational level and goal of fertility control (Dorairaji, 1986). It was therefore deemed necessary to include it in this study to find out how it varies between the two types of methods: NFP and artificial methods. A question on how long one has been married was asked and the response from the clients are given in the table 4.0.6 below.

<table>
<thead>
<tr>
<th>Duration of Marriage (in years)</th>
<th>NFP users</th>
<th>Artificial users</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>Less than 1</td>
<td>2</td>
<td>0.9</td>
</tr>
<tr>
<td>1 - 4</td>
<td>56</td>
<td>26.2</td>
</tr>
<tr>
<td>5 - 8</td>
<td>79</td>
<td>36.9</td>
</tr>
<tr>
<td>9 - 12</td>
<td>38</td>
<td>17.8</td>
</tr>
<tr>
<td>over 12</td>
<td>27</td>
<td>12.6</td>
</tr>
<tr>
<td>No response</td>
<td>11</td>
<td>5.1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>214</td>
<td>100</td>
</tr>
</tbody>
</table>

From the above table it can be seen that the highest percentage for users of both methods are the 1 - 4 yrs and 5 - 8 years but highest for NFP are those of 5 - 8 years of marriage (37%) while for artificial users the spread is almost equal between 1 - 4 and
5 - 8 years groups, 25% and 20% respectively. The users of both methods decrease for durations after 8 years of marriage - possibly that one has attained her fertility size or may be have used terminal methods like tubal ligation and as a result they no longer attend centres for family planning services. This is in line with Dorairaji's 1986 findings. But this insignificant difference of users of both methods shows both methods, if given emphasis in the clinics, can equally be used by all the clients. It shows that NFP can be accepted and used equally with artificial methods if provided.

**EDUCATION:** Education which is used here to mean the number of years in formal schooling and categorized into none, primary, secondary, college and university has in most cases been found to be a good indicator of social-economic level of an individual and significantly affects ones attitudes towards family planning and family size as shown in the work of Odallo, (1985), although Thorman (1984) on study of NFP in India, found out the contrast that education level had no effect on use of NFP, as most of them were illiterate.

However, in this study this variable was deemed necessary as proxy, together with occupation - to be discussed later, of economic characteristics which were hypothesized to be varying among the users and non-users of NFP methods. Below is the table showing percentages of NFP and artificial methods users as per different educational levels.
TABLE 4.0.7. RELATIONSHIP BETWEEN USE OF NFP AND ARTIFICIAL METHODS WITH EDUCATIONAL LEVELS.

<table>
<thead>
<tr>
<th>Level of education</th>
<th>NFP users Frequency</th>
<th>Percent</th>
<th>Artificial users Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>5</td>
<td>2.3</td>
<td>5</td>
<td>2.3</td>
</tr>
<tr>
<td>Primary</td>
<td>42</td>
<td>19.6</td>
<td>54</td>
<td>25.1</td>
</tr>
<tr>
<td>Secondary</td>
<td>95</td>
<td>44.4</td>
<td>96</td>
<td>44.7</td>
</tr>
<tr>
<td>College</td>
<td>43</td>
<td>20.1</td>
<td>40</td>
<td>18.6</td>
</tr>
<tr>
<td>University</td>
<td>23</td>
<td>10.7</td>
<td>17</td>
<td>7.9</td>
</tr>
<tr>
<td>No response</td>
<td>6</td>
<td>2.8</td>
<td>3</td>
<td>1.4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>214</td>
<td>100</td>
<td>215</td>
<td>100</td>
</tr>
</tbody>
</table>

From the table above, it is revealed that the highest percentage of users of both types of methods comprise those who have attained secondary education, 44.4% (NFP) and 44.7% (artificial methods), while the least for both methods are those who have no formal schooling (2.3%, 2.3%). This shows that use of both methods is not affected significantly by level of education. However this should be concluded with caution because the area of study—Nairobi, could have biased this result, because most of its residents are more educated than their rural counterparts. Indeed most of the people have at least attained secondary school level and are in the city employed, as it is the center of employment opportunities in the country. However from this study it is conclusive that more or less equal number of clients are distributed in both methods throughout the various levels of education. This nullifies the hypothesis of this study that NFP users are characterized by high level of education than artificial users, and the generally held belief that
NFP is difficult for illiterates.

OCCUPATION: Occupation, which is used here together with education (already discussed) as proxy for economic characteristics of the clients was classified into farmers, unskilled workers, supporting staff (such as clerks, typists), managerial staff, (such as teachers, doctors and all other professionals) and unspecified category which include those who could not define their occupation specifically (such as barmaids, and varied form of informal employment).

This variable was seen to be necessary in the study as an indicator of economic levels of the clients, which was hypothesized as affecting the use of family planning methods, in this study- the NFP methods usage. A question was asked on what occupation one held and data having been summarized is given in the table below. This table shows the variations in use of both NFP and artificial methods on occupational status of the clients.
### TABLE 4.0.8. RELATIONSHIP BETWEEN OCCUPATION AND THE USE OF BOTH NFP AND ARTIFICIAL METHODS.

<table>
<thead>
<tr>
<th>Occupation</th>
<th>NFP users</th>
<th></th>
<th>Artificial users</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
</tr>
<tr>
<td>Farmer</td>
<td>9</td>
<td>4.2</td>
<td>2</td>
</tr>
<tr>
<td>Unskilled</td>
<td>20</td>
<td>9.3</td>
<td>19</td>
</tr>
<tr>
<td>Supporting staff</td>
<td>59</td>
<td>27.6</td>
<td>45</td>
</tr>
<tr>
<td>Managerial staff</td>
<td>46</td>
<td>21.5</td>
<td>30</td>
</tr>
<tr>
<td>Unspecified</td>
<td>58</td>
<td>27.1</td>
<td>108</td>
</tr>
<tr>
<td>None response</td>
<td>22</td>
<td>10.3</td>
<td>11</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>214</strong></td>
<td><strong>100</strong></td>
<td><strong>215</strong></td>
</tr>
</tbody>
</table>

From the table, it is revealed that the highest percentages of users of both NFP and artificial methods are those holding supporting (27.6%, 20.9%) and managerial (21.5%, 14%) staff positions respectively. In occupation variable, it is clear that majority of users for both methods are those with better occupations (professionals and better paid jobs), but this could have been made so by the fact that majority of the city residents are people employed in senior positions and thus cannot be an adequate result to be generalized to the rural population. However, it generalizable to other urban areas and as the country's population becomes more urbanized this could be the trend of events as far as family planning use is concerned.

Something of significance in this result is the relative high percentage of users of both methods with unspecified occupations, and particularly for the artificial users (50.2%). The probable
explanation could be that artificial methods have more clients who are involved in petty occupations such as barmaids, unlike the NFP methods—the later usually is geared towards people in stable marriages who in turn cannot be employed in such petty jobs. The opposite is however true for artificial methods: single mothers are common in artificial method clinics, and they usually are employed in informal jobs as they find such to be the only source of livelihood. Another reason, could be that people are still sensitive to questions asking them of their occupations, and they thus are not free to disclose them (their occupations). However, this is an area that needs further research.

COUPLE COMMUNICATION: This variable refers here to whether the couples (husband and wife) talk freely together about their sexual feelings, desires and family planning intentions and methods to use. Couple communications had been found by many NFP scholars (Daly 1983; Marshall, 1985), to be a significant characteristics among users of NFP methods, although its strength differs from culture to culture (Voran, et al, 1986). This was therefore deemed essential to be investigated in this study. To obtain the information questions on whether the clients discussed freely their sexual feelings, intentions etc were posed to the respondents and the summarized data is given in the table below for NFP and artificial users.
TABLE 4.0.9 RELATIONSHIP BETWEEN NFP AND ARTIFICIAL METHOD USE WITH WHETHER COUPLE COMMUNICATION EXISTS OR NOT.

<table>
<thead>
<tr>
<th>Communication Existence</th>
<th>NFP users</th>
<th>Artificial users</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>Yes</td>
<td>201</td>
<td>93.9</td>
</tr>
<tr>
<td>No</td>
<td>7</td>
<td>3.3</td>
</tr>
<tr>
<td>None response</td>
<td>6</td>
<td>2.8</td>
</tr>
<tr>
<td>TOTAL</td>
<td>214</td>
<td>100</td>
</tr>
</tbody>
</table>

The table shows that the highest percentage for both NFP (93.9%) and artificial users (61.9%) said that communication between the couples does exist. A significant percentage (18.6%) of artificial users declined to answer the question item on level of communication, while many others (19.5%) said communication does not exist. When probed further most of these respondents said there was no communication because it is the man who decides.

However, NFP users have a very large percentage (93.9%) of those who said that couple communication exists. This supports the findings of many scholars (Daly 1983, Marshalls, 1985; Gundy et al 1987) that spousal communication is a very strong characteristic of continued users of NFP methods, and that its also an outcome of NFP use. What is not however clear, and therefore requires further research is what extent it is (i.e couple communication) a prerequisite of NFP use or what extent is it an outcome of its usage.

PREVIOUS CONTRACEPTIVE BEHAVIOR: This refers, in this study, to the methods of family planning (birth regulation) which the clients
used before adopting the current method (i.e., the client was using during the interview period), whether NFP such as mucus billings or Artificial such as the pill and condoms.

This variable was deemed necessary to investigate in this study as it has been found in quite a number of studies such as by Dorairaji (1985) in India and Gundy et al. (1987) in Kenya, that clients with no previous contraceptive use have high NFP acceptance rate than those with previous use of contraceptive, although a contrasting finding that those who have previously used a contraceptive especially the pill, tend to switch to and have a higher acceptance rate of NFP than those who have had no previous experience with contraceptives as shown by works of Fragstein, (1985) in East Germany has been noted.

Below is the table showing the previous contraceptive experience among the NFP and artificial methods users.

<table>
<thead>
<tr>
<th>Previous contraceptive use</th>
<th>NFP users</th>
<th>Artificial users</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>Sometimes</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>Yes</td>
<td>77</td>
<td>36.0</td>
</tr>
<tr>
<td>No</td>
<td>82</td>
<td>38.3</td>
</tr>
<tr>
<td>None responses</td>
<td>54</td>
<td>25.2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>214</td>
<td>100</td>
</tr>
</tbody>
</table>

From the table, it can be seen that high percentage of users of
both methods are those who had no previous contraceptive use (38.3% - NFP) and (67.9% - artificial) users. This shows that switching from one method to another especially from NFP to artificial and vice versa is not a common feature of the users. But once they have started with a method - say artificial, they only switch from one method to another within the artificial and the same could be true for NFP users. However, it is notable that a relatively high percentage had a previous experience in other methods in users of both NFP and artificial methods - 36.0% and 23.7% respectively - showing that method switching is still significant feature of users of both methods. This switching could however be lessened by providing sufficient information to be clients on all methods at the initial stages so that whichever method they would choose will be based on informed choice, and not because it is the only alternative available as was the claim of many artificial users in the study. The switching within NFP methods was explained by high failure rate especially for those who used the obsolete calendar rhythm, while in artificial methods, it was explained by high incidence of side effects.

4.0.3. SECTION B:

(i) **NFP METHODS PREFERENCE.**

On question on specific methods used for natural family planning methods, the following was obtained, given in descending order of popularity (most used type);
TABLE 4.1.1: NFP METHOD PREFERENCE.

<table>
<thead>
<tr>
<th>METHOD</th>
<th>NFP USERS Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Billings - mucus-ovulation</td>
<td>117</td>
<td>54.7</td>
</tr>
<tr>
<td>Sympto-thermal</td>
<td>64</td>
<td>29.9</td>
</tr>
<tr>
<td>Calendar - Rhythm</td>
<td>27</td>
<td>12.6</td>
</tr>
<tr>
<td>Temperature method</td>
<td>2</td>
<td>0.9</td>
</tr>
<tr>
<td>Others (e.g. Breast-feeding)</td>
<td>2</td>
<td>0.9</td>
</tr>
<tr>
<td>None response</td>
<td>2</td>
<td>0.9</td>
</tr>
<tr>
<td>TOTAL</td>
<td>214</td>
<td>100</td>
</tr>
</tbody>
</table>

The most popular NFP method was found to be the mucus-ovulation (55%) followed by sympto-thermal (29.9%). The reason given for popularity of the mucus-ovulation method is its ease in application in that it is always available, does not cost any money and mucus recognition is found to be easy by many women (Thorman 1985). However, notable is the relatively high percentage of users of the discarded calendar rhythm (12.6%); while others still consider breast-feeding and withdrawal as NFP methods. This shows the widespread misconceptions and ignorance on the modern NFP methods, even among those who claim to be using NFP methods finding similar to the Philippines Natural Family Planning Survey (PNFPS, 1984), Snowden's (1988) and Kiura's (1990) findings.

ii) REASONS FOR CHANGING FROM ARTIFICIAL TO NFP METHODS OF FAMILY PLANNING.

Concerning the reasons for changing from artificial methods to NFP methods, questions was posed to the current NFP users, "why
did you change to natural method of family planning?", and the responses given are tabulated below in descending order of their popularity. My main objective here was to find out the major courses of dropping out of artificial use and what made these same people to choose natural family planning. I found this necessary as a way of finding out the perceived advantages of NFP as I had stipulated in the general objectives earlier. It was also a way of testing the validity of the belief that NFP is difficult for the illiterate persons commonly held by many people. This was one of the major rationale of the study.

<table>
<thead>
<tr>
<th>Response</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preference</td>
<td>524</td>
</tr>
<tr>
<td>Cost</td>
<td>524</td>
</tr>
<tr>
<td>Convenience</td>
<td>524</td>
</tr>
<tr>
<td>Education</td>
<td>524</td>
</tr>
<tr>
<td>Social Acceptance</td>
<td>41</td>
</tr>
<tr>
<td>Religious</td>
<td>41</td>
</tr>
<tr>
<td>Other</td>
<td>41</td>
</tr>
<tr>
<td>Total</td>
<td>675</td>
</tr>
</tbody>
</table>
### TABLE 4.1.2: REASONS FOR CHANGING FROM ARTIFICIAL TO NFP METHODS

<table>
<thead>
<tr>
<th>Reason</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has no side effects</td>
<td>54</td>
<td>22.8</td>
</tr>
<tr>
<td>To avoid pregnancy (limit space)</td>
<td>44</td>
<td>19.4</td>
</tr>
<tr>
<td>To achieve pregnancy (infertility cases)</td>
<td>25</td>
<td>11.0</td>
</tr>
<tr>
<td>Cheap, easy to apply</td>
<td>24</td>
<td>10.6</td>
</tr>
<tr>
<td>Its accurate, easy, reliable, effective</td>
<td>18</td>
<td>7.9</td>
</tr>
<tr>
<td>To double check fertility</td>
<td>15</td>
<td>6.6</td>
</tr>
<tr>
<td>To understand how my body functions</td>
<td>10</td>
<td>4.4</td>
</tr>
<tr>
<td>Religious reasons</td>
<td>6</td>
<td>2.6</td>
</tr>
<tr>
<td>Sex selection</td>
<td>5</td>
<td>2.2</td>
</tr>
<tr>
<td>Recommended by my teacher</td>
<td>4</td>
<td>1.8</td>
</tr>
<tr>
<td>It strengthens marriage</td>
<td>2</td>
<td>0.9</td>
</tr>
<tr>
<td>Always available</td>
<td>2</td>
<td>0.9</td>
</tr>
<tr>
<td>To teach others and use after marriage</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>Its reversible</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>None responses</td>
<td>16</td>
<td>7.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>227</strong></td>
<td><strong>99.9</strong></td>
</tr>
</tbody>
</table>

From the table the most common reason for changing from NFP methods is lack for side effects (23%) followed by the avoidance of pregnancy without use of chemicals or mechanical (19.4%) and the third most important reason is the need to achieve pregnancy (11%) associated with respondents who had infertility problems. This result confirms many other researches which have shown that the primary reason of choosing NFP is that absence of side effects (Daly, 1983; PNFPS, 1984; Gundy, 1987) and religions affiliations has little significance as also shown by this study (only 2.6%) and
Freundle's (1984). These reasons for switching to NFP from artificial are a confirmation that there exist certain definite perceived advantages of NFP use.

(iii) **REASONS WHY MANY PEOPLE USE ARTIFICIAL METHODS THAN NFP METHODS.**

The study also sought to know why generally many people use artificial methods than NFP methods as a way to find out some of the disadvantages and advantages and misconceptions of NFP and artificial methods among both NFP and artificial methods. This was deemed necessary because it has been found that disadvantages, lack of knowledge of the various methods influence to a large extent the use and non-use of any family planning method (Daly et al., 1983; Thormann, 1974; Snowden, 1988). Below are the reasons given by users of both NFP and artificial methods on why many people use artificial methods of family planning.
TABLE 4.1.3: **WHY PEOPLE USE ARTIFICIAL METHODS MORE THAN NFP METHODS:**

**REASONS FROM BOTH NFP AND ARTIFICIAL METHOD USERS.**

<table>
<thead>
<tr>
<th>REASON</th>
<th>NFP USERS</th>
<th>ARTIFICIAL USERS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FREQUENCY</td>
<td>PERCENT</td>
</tr>
<tr>
<td>Lack of knowledge</td>
<td>70</td>
<td>32.7</td>
</tr>
<tr>
<td>Does not know why</td>
<td>50</td>
<td>23.4</td>
</tr>
<tr>
<td>To avoid personal responsibility</td>
<td>34</td>
<td>15.9</td>
</tr>
<tr>
<td>Do not trust NFP</td>
<td>14</td>
<td>6.5</td>
</tr>
<tr>
<td>Not aware of side effects</td>
<td>7</td>
<td>3.3</td>
</tr>
<tr>
<td>Allows unrestrained sex</td>
<td>7</td>
<td>3.3</td>
</tr>
<tr>
<td>Encourage by clinical personnel</td>
<td>4</td>
<td>1.9</td>
</tr>
<tr>
<td>Think it is effective</td>
<td>4</td>
<td>1.9</td>
</tr>
<tr>
<td>Wives use it in secret</td>
<td>4</td>
<td>1.9</td>
</tr>
<tr>
<td>To feel 'modern'</td>
<td>2</td>
<td>0.95</td>
</tr>
<tr>
<td>NFP education expensive</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>To avoid diseases</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>None responses</td>
<td>17</td>
<td>7.9</td>
</tr>
<tr>
<td>Lack of husband co-operation</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>214</td>
<td>100</td>
</tr>
</tbody>
</table>

From the table, the main reason for using artificial methods according to NFP users is that those who use them lack knowledge of NFP methods and thus they resort to artificial methods (32.7%), but for artificial users, they think that people use artificial methods mainly because they do not trust NFP workability (38.1%).
both of the two reasons are however supportive in that lack of knowledge of a particular method will make one to mistrust its effectiveness. Avoidance of personal responsibility in family planning is a case also given by users of both NFP and artificial methods to why many people prefer artificial methods (15.9% and 15.3%) while for artificial users notable reasons they gave for use of artificial method is lack of husband's co-operation (14.4%), confirming findings by Kiura et al (1990), but contradicts the findings by Twin cities (1986).

IV  WEAKNESSES (PROBLEMS) ASSOCIATED WITH USE OF NFP:

VIEWS FROM BOTH NFP AND ARTIFICIAL METHODS.

The study of weaknesses of NFP and problems associated with its use was seen to be essential for inclusion in this study because it has been found that its weaknesses and problems tend to influence negatively, the use of NFP methods (Daily et al 1983, Marshall 1985) and therefore it is important to know what weaknesses (problems) do exist in the use of NFP, so that solutions could be suggested accordingly, if NFP is to be incorporated into the existing family planning framework. It was also a way to find out the perceived disadvantages of NFP use as was stated earlier on in the general objectives of the study. Data obtained on weaknesses (problems) are given in the table below for both users of NFP and artificial methods.
**TABLE 4.1.4: PROBLEMS ASSOCIATED WITH NFP USE: VIEWS FROM NFP AND ARTIFICIAL METHOD USERS**

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>NFP USERS</th>
<th></th>
<th>ARTIFICIAL USERS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FREQUENCY</td>
<td>PERCENT</td>
<td>FREQUENCY</td>
<td>PERCENT</td>
</tr>
<tr>
<td>No problem</td>
<td>89</td>
<td>41.6</td>
<td>44</td>
<td>20.5</td>
</tr>
<tr>
<td>Lack of husband's co-operation</td>
<td>34</td>
<td>15.9</td>
<td>33</td>
<td>15.3</td>
</tr>
<tr>
<td>Too much daily observations</td>
<td>25</td>
<td>11.7</td>
<td>2</td>
<td>0.9</td>
</tr>
<tr>
<td>Difficulty in abstinence in fertile period(from both spouses)</td>
<td>16</td>
<td>7.5</td>
<td>21</td>
<td>9.8</td>
</tr>
<tr>
<td>Requires highly motivated people</td>
<td>16</td>
<td>7.5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Difficult in knowing when fertile</td>
<td>12</td>
<td>6</td>
<td>30</td>
<td>14</td>
</tr>
<tr>
<td>High failure rate</td>
<td>6</td>
<td>3.0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Too much writing and charting and lesson attendance</td>
<td>5</td>
<td>2.3</td>
<td>4</td>
<td>1.9</td>
</tr>
<tr>
<td>Forgetting to observe and record</td>
<td>1</td>
<td>0.5</td>
<td>6</td>
<td>2.8</td>
</tr>
<tr>
<td>Irregular periods</td>
<td>0</td>
<td>0</td>
<td>16</td>
<td>7.4</td>
</tr>
<tr>
<td>Constant fear of pregnancy</td>
<td>0</td>
<td>0</td>
<td>45</td>
<td>20.9</td>
</tr>
<tr>
<td>Difficult for illiterates</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>Does not allow sex always</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>1.9</td>
</tr>
<tr>
<td>None responses</td>
<td>10</td>
<td>5.0</td>
<td>3</td>
<td>1.4</td>
</tr>
<tr>
<td>Not emphasized by clinics</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>3.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>214</td>
<td>100</td>
<td>215</td>
<td>100</td>
</tr>
</tbody>
</table>

From the table above it can be seen that majority of NFP users and artificial users, find that NFP use has no problem (42.3% and 20.5% ) which is significant revelation as far as especially artificial users are concerned, as it shows that although they don't use it, they find that it has no problem, which shows NFP possibly could be accepted by many people. In fact, most of the
20.5% users of artificial methods said that NFP methods have no problems provided it is properly taught and husband co-operate. Husband's lack of co-operation is still cited by majority of NFP and artificial users as serious problems facing the use of NFP (16% and 15% respectively)

Significant revelation from NFP users is that too much daily observations required of NFP methods is problem (12%) and difficulty in abstinence during fertile period and the fact that NFP required high motivation are both cited by NFP users as problems (7.5%, 7.5%)

On the side of artificial users, major problems cited are constant fear of pregnancy (21%) and difficulty in knowing the fertile days (14%). These are however seen as minor problems among NFP users (0% and 6%) respectively. These findings are consistent with Ramaswamy (1976) and Kiura et al (1990).

V: **WHY FORMER NFP USERS CHANGED TO ARTIFICIAL METHODS**

A question was posed to artificial users, whether they have ever used an NFP method and if so, why they stopped and started to use artificial methods. This was deemed necessary in the study because it could bring out some of the problems with NFP use and reasons for changing to artificial methods. For those who had used NFP and have dropped a further question was posed on which NFP method they were using. Only 43 clients of artificial methods out of 215 were found to have ever used NFP, which was a significant percentage (20%).

This information is presented in the table below.
### TABLE 4.1.5  
**ARTIFICIAL USERS: WHY THEY CHANGED FROM NFP METHOD AND NFP METHOD THEY USED.**

<table>
<thead>
<tr>
<th>NFP METHOD ONCE USED</th>
<th>REASON FOR DROP OUT</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calendar rhythm</td>
<td>Unplanned pregnancy</td>
<td>20</td>
<td>46.5</td>
</tr>
<tr>
<td>Calendar rhythm</td>
<td>sudden changes in cycle</td>
<td>10</td>
<td>23.3</td>
</tr>
<tr>
<td>Calendar rhythm</td>
<td>Local of husband’s co-operation.</td>
<td>6</td>
<td>14.0</td>
</tr>
<tr>
<td>Mucus ovulation (self-taught)</td>
<td>Unplanned pregnancy</td>
<td>3</td>
<td>7.0</td>
</tr>
<tr>
<td>Calendar rhythm</td>
<td>To be modern</td>
<td>1</td>
<td>2.3</td>
</tr>
<tr>
<td>Breast-feeding</td>
<td>Unplanned pregnancy</td>
<td>1</td>
<td>2.3</td>
</tr>
<tr>
<td>Calendar</td>
<td>Unplanned pregnancy</td>
<td>1</td>
<td>2.3</td>
</tr>
<tr>
<td>Withdrawal</td>
<td>Excessive abstaining period</td>
<td>1</td>
<td>2.3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>43</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

From the table it is revealed that majority of the former NFP users who now use artificial methods formally used calendar methods rhythm (88%, 38 out of 43 users), which is no longer taught as an NFP methods in NFP centers. This shows lack of awareness of modern NFP methods like the mucus-ovulation, symptom-thermal and the temperature method, and no wonder there were a lot of unplanned pregnancies; (58.1%) gave it as a reason for their dropping out of NFP. It is significant to also note that some confuse breast-feeding with NFP methods (2.3%), and also withdrawal (2.3%). The 7.0% who had used modern NFP methods - like mucus-ovulation were self-taught and not taught by a trained NFP teacher, and reason given also was unplanned pregnancy. One of the calendar rhythm (2.3%) dropped use and started using artificial so as to be
'modern' showing the negative altitude that NFP methods are not modern methods. It shows lack of knowledge of the scientific and modern bases for NFP methodologies.

VI: PERCEIVED ADVANTAGES AND DISADVANTAGES OF NFP METHODS; VIEWS FROM NFP AND ARTIFICIAL USERS.

A question was posed to both NFP and artificial users on the perceived advantages and disadvantages of NFP use. This was meant to find out the advantages and disadvantages associated with the method use which encourage its and discourage people from use. These were seen to be important because it is advantages/disadvantages which enhance/hinders the use of any family planning method, in this case NFP usage. It was also aimed at finding out the truth of the commonly held opinion that NFP's disadvantages outweigh the advantages and thus most physicians would not recommend to their clients.

Below is the table which gives the various advantages and disadvantages as perceived by both NFP and artificial users on the use of NFP methods.
From the above table, majority of both NFP and artificial users (38% and 57%) respectively) feel that NFP enriches the marriages in one way or another, most NFP users gave achieving of pregnancy in infertility cases, increased satisfying sexual relations and woman's health protection as some of the attributes that enriches the marriage, while most artificial users who felt that NFP enriches marriage cited woman(wife's) health protection as a major attribute of NFP that enriches marriage. These findings are similar to PNFPS (1984), which gave that 77% said that NFP improves
husband-wife relationship, and 84% said it increased self-control, self-esteem and sexual life and also Guzzetti (1980) and Daly (1983).

NFP users also cited increased couple communication and mutual decision making (26%), increased couple or husband-wife relationship (18.6%) and increased self control, discipline in other areas (12.1%) and increased patience in other areas of life (4.3%). All these findings confirm findings of Marshall (1963), Guzzetti (1980), PNFPs (1984), Laing (1984), Widhalm et al (1987), Vernon et al (1987) and Billings (1989). However users of artificial methods have not experience such advantages of NFP use as is expected because they have never used it.

On disadvantages NFP users cited problems of family tensions and misunderstandings during the fertile phase, only given by very few clients (1.2%) but for artificial users majority (34.3%) gave this as a very serious disadvantages of NFP use, which they qualified as resulting mainly from husband's impatience and being drunk and thus were not willing to abstain during the fertile phase. Some clients said that their husbands often said that they can not wait with the reason that wives are there for their asking and they do not want to hear any excuse. Some said that their husbands said that family planning is wife's responsibility and they are not at all ready to discuss anything as such. This was what made many wives to resort to contraceptives mainly the pill and injectable - for they are relatively secretive. These findings on disadvantages are similar to Marshall's (1963), WHO (1967) Kleinman (ed) (1980), Snowden (1988) and Kiura et al (1990).
The things affecting the demographic characteristics of a population - its size, rate of increase and the age-sex distribution among others, must work through one of the three dynamics of population mortality, migration and fertility (KDHS, 1989). Of this, fertility is the most dynamic element and its measure was deemed necessary for inclusion in this study as a way to find out the fertility intentions of NFP users. This was important in finding out the fertility control implications of the NFP use and the role it can play in population regulation vis-a-vis economic development in Kenya. Although the study was mainly concerned with investigation of characteristics of NFP users it was however found, that it was going to be incomplete without an implication on fertility control as family planning methods, NFP included, are geared towards regulation of this population dynamic: fertility.

The NFP users were asked to give their main demographic intentions for choosing NFP methods and responses ranged from family limitation to achieving of pregnancy-for the clients with infertility problems. As shown in the table 4.1.7 below, majority (41.59%) are spacers, followed by (28.97%) limiters.
Table 4.1.7: NFP users' Fertility Intentions.

<table>
<thead>
<tr>
<th>Fertility intentions</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>To space</td>
<td>89</td>
<td>41.59</td>
</tr>
<tr>
<td>To limit</td>
<td>62</td>
<td>28.97</td>
</tr>
<tr>
<td>To achieve (for fertility clients)</td>
<td>36</td>
<td>16.83</td>
</tr>
<tr>
<td>Sex pre-selection</td>
<td>10</td>
<td>4.67</td>
</tr>
<tr>
<td>None response</td>
<td>10</td>
<td>4.67</td>
</tr>
<tr>
<td>Others (e.g. to teach others/or to use after marriage etc)</td>
<td>7</td>
<td>3.27</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>214</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

As revealed from the above table the major fertility intentions for the NFP users are increased spacing i.e. increasing birth intervals (41.59%) and limiting i.e. stopping births (28.97%). Both intentions can imply a reduction in fertility levels of the users because increased birth intervals has been found to reduce the total fertility rate (TFR) (Murungaru, 1982, Kiura 1990) by reducing the number of children a woman can have in her entire reproductive lifetime. Other findings of this study which have significant implications on fertility control are the relatively high percentages (16.83%) achievers and sex pre-selection (4.67%). According to Ndeti et al (1977), there is a strong desire among many ethnic groups in Kenya to have the family name continuity through a son and for property inheritance. The success of NFP sex selection can therefore be a significant contribution to fertility reduction in the country because most people would continue having children if a boy is not forthcoming in search for it. In my study
I found that majority (70%) of the sex pre-selectors were in need of a boy and they said that they did not have may intentions of having more children, once they achieved the sex they wanted. On the other hand the majority (50%) of achievers said, they would start spacing with a birth interval of between 4 to 5 years once they achieved. Remote fertility intentions given by the respondents included desire to teach others or to use after marriage (3.27%).

The findings compares well with Kiura's (1990) findings given in the table 4.1.8 below, which shows that a significant percentage (19.6%) did not want any more children after having 3 children and that a large percentage (35.2%) of others wanted a spacing of at least three years.

Table 4.1.8: Percent of Distribution of clients by when next children is wanted in urban area - Nairobi.

<table>
<thead>
<tr>
<th>Response</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do not want any more</td>
<td>19.6</td>
</tr>
<tr>
<td>In 1 or less than 2 years</td>
<td>9.2</td>
</tr>
<tr>
<td>In 2 or less than 3 years</td>
<td>19.8</td>
</tr>
<tr>
<td>In 3 or more years</td>
<td>35.2</td>
</tr>
<tr>
<td>Not certain</td>
<td>8.7</td>
</tr>
<tr>
<td>Upto God</td>
<td>7.5</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Kiura, 1990, P. 34, Table 4.10.

These findings concur with KDHS (1989,findings on the general population of the city having 4.6 children as completed fertility when using a family planning method. All these findings therefore
show that NFP can be used as a fertility reducing technique through increased birth limitation and wider birth intervals - which meets one of the rationale of my study; to help the government in pursuance of its objectives of populations control.

This study did not however examine the extent to which these fertility intentions of increased spacing and limitations have been realised neither did it investigate the fertility differentials and levels of NFP and artificial users. These aspects have been put in the research recommendations of the study. It could not be possible to examine them because the demographic techniques used for their estimations required more data than was obtained by the researcher.
CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS.

5.0.1. INTRODUCTION:

This chapter deals with the findings, conclusions and recommendations.

In order to avoid unnecessary repetitions, a summary of the findings is presented with reference to the objective and hypothesis stipulated in chapter one. This chapter reviews the major findings emanating from the results presented in the preceding chapters. In reviewing the findings special consideration is accorded to the articulation of the major objectives of the study which were:

'To identify the social-cultural, economic, psychological (behavioral) and demographic characteristics that are associated with the use or non-use of NFP methods' and

"To examine the perceived advantages and disadvantages of Natural Family Planning (NFP) methods and associated problems."

5.0.2: SUMMARY AND CONCLUSION OF FINDINGS

OBJECTIVE 1: TO FIND OUT HOW PREVIOUS CONTRACEPTIVE USE VARIES FROM USERS TO NON-USERS OF NFP AS A CHARACTERISTIC:

On previous contraceptive use, it was hypothesized that couples/respondents characterized by previous contraceptive use are likely to be less receptive to NFP methods, than others. This was confirmed as many of the users of NFP (38%) and artificial
(68%) had no previous contraceptive behavior, showing that switching from one type of method to another was not so common especially among artificial users.

**OBJECTIVE 2: TO FIND OUT THE VARIATION IN AGE AMONG USERS OF NFP AND ARTIFICIAL METHODS**

On age, apparently the study has netted clients in their prime reproductive ages 20-34 years and a few younger and older ones, for both methods, giving 64% (NFP) and 54.8% (artificial users). It is therefore conclusive that age of clients especially the woman, does not significantly vary from NFP users to artificial users. Both methods are mainly used by women at their prime reproductive life as demographically expected, as this is the age one spacing and limiting intentions are at their peak and thus clients would resort to family planning methods. It nullifies the hypothesis that NFP users are characteristically young people.

**OBJECTIVE 3: TO FIND OUT WHETHER USE OF NFP OR ARTIFICIAL METHODS VARIES WITH SEX.**

Sex as a characteristic among NFP and artificial users was found to vary, not by method used, but within the methods. It was found that majority of NFP users (80%) and artificial users (78%) were females, showing that male participation for all family planning methods is still very low: 18.2% (NFP) and 21% (artificial), in this study. However, though few men attended clinics for both groups
of methods, most NFP users (95%) claimed that they discussed with their husbands about their family planning regulation methods, while those for artificial methods said they attend the clinics secretly without their husbands' consent (20%). The problem here lies with the fact that artificial methods by nature are majority biased towards the woman, while the man is often left out, yet is known that he is an active participants in reproduction. No wonder therefore, that most men think that family planning is meant for women, a view which has continued to negatively affect the implementation of family planning programmes.

OBJECTIVE 4: TO EXAMINE THE VARIATION OF DURATION OF MARRIAGE AMONG USERS OF NFP AND ARTIFICIAL USERS.

On duration of marriage, little variations was found between the two methods, nullifying the hypothesis that NFP users are characterized by short marriage durations than the users of artificial methods. Highest percentages were found for 1 - 8 years (63.1% - NFP users) and (45.1% artificial users). This insignificant difference in duration of marriage for users of both methods shows that both methods, if given emphasis in the clinics can equally be used by all the clients.

OBJECTIVE 5: TO EXAMINE COUPLE COMMUNICATION AS A CHARACTERISTIC AMONG THE NFP AND ARTIFICIAL USERS.

Couple communication was found to exist among majority of users of NFP methods; (NFP - 94%, which confirms the hypothesis that NFP
users are characterized by deep level of spousal communication than artificial users. But still a large percentage (62%) of artificial confirmed that they had good couple communication, showing that a large number of artificial users are potential users of NFP because good spousal communication which is requirement for NFP use already exists.

OBJECTIVE 6: TO EXAMINE DIFFICULTY IN ABSTINENCE AS A CHARACTERISTIC WHETHER IT VARIES FROM NFP TO ARTIFICIAL USERS.

Difficulty in abstinence during the fertile period was found to strongly vary as a characteristic among NFP and artificial users. Most NFP users (69%) were characterized by absence of difficulty in abstinence while for artificial users (34%) and (24%) said abstinence was difficult, and for NFP only (19%) said so. It is conclusive that the hypothesis that difficulty in abstinence as a characteristic varies from NFP to artificial users, due to different motivational and male participation levels, which are very low for artificial users.

OBJECTIVE 7: TO EXAMINE WHETHER THE NFP USERS ARE CHARACTERIZED OR NOT BY RELIGIOUS AFFILIATION.

Religious characteristics of the clients was found to be mainly Catholics (51.5%) and protestants (45%), while other religious groups had almost equal and small percentages (0.5% and 0.9%) for NFP users, while for artificial almost a similar trend was observed
(35% Catholics and 47% Protestants) and others varied from 0.9% to 2.8%. The larger percentage of Catholics in NFP users could be due to the fact that it is mainly provided by Catholic church. But the large percentage of Protestants using NFP methods (45%) and many Catholics using artificial methods (34.9%) show that religious affiliations is not a strong characteristics associated with NFP use, but rather the availability of the service, confirming the hypothesis that religious affiliations as a characteristic does not vary between NFP and artificial users.

**OBJECTIVE 8: TO FIND OUT WHETHER ETHNICITY AS A CHARACTERISTIC VARIES FROM NFP TO ARTIFICIAL USERS.**

On ethnicity, it was found that the largest number of users of both methods are Kikuyu (47%) and (46%) for NFP and artificial methods respectively. But this was explained by the fact that majority of Nairobi and its surrounding area's residents are from this ethnic group. But many ethnic groups are found represented in the users of NFP which is conclusive that if NFP services was given emphasis in clinics it could be used by all, and this nullified the study's hypothesis that NFP users are characterized by ethnic variations, than artificial users.

**OBJECTIVE 9: TO EXAMINE THE EDUCATIONAL CHARACTERISTIC VARIATIONS AMONG USERS AND NON-USERS**

On educational characteristics, it was found that highest
percentages of users of both methods comprise those who had attained secondary school education: 44.4% (NFP) and 44.7% (artificial), while the least for both were those who had no formal schooling, nullifying the hypothesis that use of NFP and artificial methods varies on educational levels, and refutes the common claim that NFP is usually used by the illiterates.

OBJECTIVE 10: TO FIND OUT HOW OCCUPATION AS AN ECONOMIC CHARACTERISTIC VARIES FROM NFP TO ARTIFICIAL USERS.

Occupational characteristics of the users was found to have a similar trend with education characteristic, that majority for both methods were people holding senior positions, (49.1%) NFP) and (34.9% artificial users). But on significant feature among artificial users is the high percentage (50%) of clients who declined to disclose their occupations. However, on overall, education and occupational characteristics as proxies for economic status for the clients do not vary much among NFP and artificial users, nullifying the hypothesis that NFP users are characterized by high levels of education and occupational status than artificial users.

OBJECTIVE 11: TO EXAMINE METHOD PREFERENCE AMONG NFP USERS

On NFP method preference, it was found that Mucus-Ovulation (billings) method was the most preferred (55%), confirming findings by Kiura et al (1990). This was mainly because mucus-ovulation
method does not require the use of external aids like thermometers but only use signs which are always with the woman.

OBJECTIVE 12: TO FIND OUT THE ADVANTAGE AND DISADVANTAGE OF NFP METHODS AS PERCEIVED BY THE USERS AND NON-USERS (ARTIFICIAL USERS).

The study found out that major advantages of the NFP methods included marriage enrichment (56.5%), increased spousal communication (26.2%), and increased couple understanding (18.6%), increased self-control and discipline in other areas (12.1%), increased patience in other areas (4.3%). These confirmed findings by Thorman (1974), PNFPs (1984), Gundy (1987), and Kiura et al (1990), while the most mentioned disadvantages was that it creates tensions and misunderstanding during the fertile period (1.2%), as perceived by NFP users.

OBJECTIVE 13: TO RECOMMEND AREAS OF POLICY ACTION AND FURTHER RESEARCH IN THE NATURAL FAMILY PLANNING PROGRAMME

5.0.3. POLICY RECOMMENDATIONS:

From the findings of the study the following policy recommendations were made by the author:

1. A serious lack of knowledge exists with respect to NFP effectiveness, reliability and use especially among the artificial users. Thus donor agencies, government ministries, and non-
governmental organizations apart from the Catholic church, should support a wide-scale dissemination of the effectiveness and reliability of NFP methods among the clients, and the public in general.

2. Lack of organizational structure and trained personnel for clinical referrals, such as in case of breast-feeding mothers, women coming off the pill, presence of pathological conditions etc do exist. Therefore the Government and other organizations should provide specialized training to selected individuals to handle teaching of methodology on problem situations. Higher institutions of learning such as universities and colleges, should include in curriculum of relevant departments the teaching of NFP, such as college of Health Professionals, medical school (University of Nairobi), Population studies and Research Institute (University of Nairobi) and Department of Sociology (Kenyatta, Egerton, Moi Universities and University of Nairobi) among others.

3. There is need for improvement in the use of NFP from the lesser effective, calendar rhythm method, to more effective methods such as the Billings. Therefore prioritized information and educational support of the programme, couple with systematized outreach services focusing on the target population are likely to significantly enhance the achievement of objectives of NFP at the national level. Both qualitative and quantitative monitoring of activities and evaluation of goals are crucial to future programme
development and this should not be left to Catholic church only.

4. NFP has been found to enrich marriage and family as a whole. Therefore emphasis in teaching the NFP methods should be also on the fact that it is more than a pregnancy avoiding method, but that it facilitates value and behavior maturation that enhances the quality of marital and family bonds.

5. Having found that majority of clinical personnel are negative about NFP methods, and that they (clinical personnel) are the ones most trusted by the public, the NFP programme must be managed by NFP users helped by medical personnel, so as to ensure greater acceptance among the general public. There is therefore need for conscious effort to involve existing and new community organizations or associations and to enhance dialogue with priests, medical personnel and organizations which control the allocation of authority and resources needed in the programme.

6. Many people do not use NFP despite the fact that they are aware of risks involved in usage of contraceptives, because they lack sexual maturity essential for any marriage, which is also essential for a balanced practice for natural methods and loving continence. The problem also lies in today's premarital sexual attitude and behavior that compromise young people's psycho-sexual development and general moral laxity, permissiveness and decay of morality. Therefore the teaching of NFP should emphasize the moral value inherent in its use such as moral chastity, and responsible, loving
satisfying marital and familial relationships for the married. Here male participation in caring, planning and rearing for his family should be emphasized. He must be persuaded to participate and know the importance of this participation in decision making in the process of family planning and harmonious marriage.

7. It was found that the users of NFP come from all walks of life, catering for peoples of different social-cultural, behavioral, demographic and economic characteristics. It therefore means that NFP provision should never be restricted to people of particular characteristics but rather should be provided to all. This could be done by providing NFP instructors in the clinics, hospitals, counselling centers, and other possible channels. There is urgent need to provide NFP services in all government hospitals and clinics and not contraceptives alone.

8. The claim that husbands could never go for NFP was found to be not wholly true by the study. It is an assumption that males are sexual dictators, and though it is often true that men have stronger sexual drive, when a man realizes the health risks posed by all interventional (artificial) methods, he won't want his loved one exposed to danger, and thus can easily control his sexual drive, as is shown by high percentage (94%) of husbands cooperation in the study. In fact, many times, it is man who actually first encourages the use of NFP. What is only required is that full, and
correct information on advantages and disadvantages of using contraceptives and NFP should be brought to knowledge of all family planning users, so that they will choose a method with informed choice.

5.0.4. RECOMMENDATIONS FOR FURTHER RESEARCH.

NFP methods are new and recent innovations and therefore there still exists many areas which require further research. The ones recommended by the author of this study include;

1. There is need to find out various economic, social, demographic, psycho-sexual determinants to the acceptance and continued use of NFP methods.

2. There is need to find out the continuation and drop-out rate of NFP users.

3. There is need to find out the effects of NFP use on fertility and family size.

4. There is need to find out the best teaching methods and recruitment procedures of NFP instructors.

5. There is need to investigate the psycho-sexual problems associated with NFP use.
6. There is need to look into the physicians perceptions and attitudes towards natural family planning, in the country.

7. There is need to find out the client satisfaction in the instruction and usage of Natural methods.

8. There is need to examine impact of Natural Family Planning on couple relationship.
5.0.5: **BIBLIOGRAPHY:**


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APPENDIX 1: QUESTIONNAIRE:

Questionnaire on the study of "Characteristics of Natural Family Planning users. A case study of Nairobi".

Dear Respondent,

You are kindly requested to provide the information asked below. Your co-operation is highly appreciated and you are assured that everything will be treated with high confidentiality.

Thank you in advance.

F.K. CHELULE
(RESEARCHER)
P.S.R.I.
UNIVERSITY OF NAIROBI.
001. State your ethnicity.

Luhya 1
Luo 2
Kikuyu 3
Kamba 4
Meru 5
Kalejin 6
Others (specify) _______________________________________

002. State your age and sex.

(a) Age

15-19 1
20-24 2
25-29 3
30-34 4
35-39 5
40-44 6
45+ 7

(b) Sex

Male 1
Female 2

003. State your marital status.

Married 1
Engaged 2
Single 3
Divorced/separated 4
004. State your religion.

- Catholic 1
- Hindu 5
- Protestant 2
- None 6
- Muslim 3
- Others (specify) 7
- Traditional 4

005. (a) Which natural method of family planning do you use at present? (users only).

- Safe period (Rhythm) or Calendar 1
- Basal Body Temperature (BBT) 2
- Ovulation- Mucus (Billings) 3
- Sympto-thermal 4
- None 5
- Others (specify) 6

b) If you are using any of the above given NFP methods, state one main reason for using it:

006. How did you hear about the natural family planning methods (users only)? From:-

- Family 1
- Pre-marriage course 5
<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Friends</td>
<td>2</td>
<td>Magazines (Newspapers)</td>
<td>6</td>
</tr>
<tr>
<td>Church</td>
<td>3</td>
<td>Radio</td>
<td>7</td>
</tr>
<tr>
<td>Clinic</td>
<td>4</td>
<td>Other (specify)</td>
<td>8</td>
</tr>
</tbody>
</table>

007. For how long have you been using NFP methods (users only)?

<table>
<thead>
<tr>
<th>Duration</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 year</td>
<td>1</td>
</tr>
<tr>
<td>1 - 2 years</td>
<td>2</td>
</tr>
<tr>
<td>3 - 6 years</td>
<td>3</td>
</tr>
<tr>
<td>7 - 9 years</td>
<td>4</td>
</tr>
<tr>
<td>&gt; 10 years</td>
<td>5</td>
</tr>
</tbody>
</table>

008. a). Did you ever use artificial methods before using NFP?

Yes 1 (If yes, answer 8(b)).

No. 2

b). State the method:

<table>
<thead>
<tr>
<th>Method</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral contraceptive</td>
<td>1</td>
</tr>
<tr>
<td>Coil (IUDs)</td>
<td>2</td>
</tr>
<tr>
<td>Condoms (sheath)</td>
<td>3</td>
</tr>
</tbody>
</table>
009. Why did you change to natural method of family planning? Reason:

Does not interrupt sex act (aesthetics) 1

Medical 2

Religious (moral) 3

Failure of artificial methods 4

Others (specify) 5

010. What was your intention of choosing to use NFP? To:

Avoid (limit) pregnancy 1

Delay (space) pregnancy 2

Achieve pregnancy 3

Have a child of another sex 4

Others (specify) 5

011. Do you consider that a family planning helps (can help) marriage and family?

Yes 1

No 2
012. Is abstinence during the fertile time (period) a problem?

Yes 1 □  Sometimes 3 □
No 2 □  Not sure 4 □

013. a) Have you ever had any psychosexual problems when using a natural method?

Yes 1 □  (If yes, answer 13 (b).
No 2 □

b) State the problem:

Incorporative spouse 1 □
Family tensions 2 □
Premature ejaculation 3 □
Frigidity 4 □
Impotence 5 □
Others (specify) 6 □

014. What have you learned in NFP that may have been helpful in other areas of your married life?

1-Increased communication and mutual decision making. □

2-Has increased my knowledge of my or my wife's cycles emotions, mood, swings and helped understand myself or her □

3-Puts in control of my life and increased self-discipline in other areas. □
4 - Has increased my patience in other areas.  

5 - None  

6 - Others (specify):  

015. If married how long have you been married? 

Less than 1 year  

1 - 4 years  

5 - 8 years  

9 - 12 years  

over 12 years  

016. If married how old is your spouse?  

15 - 19  

20 - 24  

25 - 29  

30 - 34  

35 - 39  

40 - 44  

> 44  

017. a) How many school years have you completed?  

0  

1 - 3  

4 - 7  

8 - 12  

over 12  

b) What level of education did you attain:  

None
018. Do you have any difficulty in recognizing the fertile phase of your cycle? (Females only)

Yes 1

NO 2

019. State your occupation:

Farmer 1

Unskilled worker 2

Supporting staff 3

Managerial staff 4

Unspecified 5

020. State one reason why you think people use artificial methods (pills etc) of family planning?

021. Does the knowledge of fertility enhances woman's dignity, gives a sense of pride and security to woman?

Yes 1
022. Who decides when to have sex in your family?

<table>
<thead>
<tr>
<th>Option</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Husband</td>
<td>1</td>
</tr>
<tr>
<td>Wife</td>
<td>2</td>
</tr>
<tr>
<td>Both (wife/husband)</td>
<td>3</td>
</tr>
<tr>
<td>Relatives</td>
<td>4</td>
</tr>
</tbody>
</table>

023. Do you discuss with your spouse about your sexual affairs feelings etc?

<table>
<thead>
<tr>
<th>Option</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
</tr>
</tbody>
</table>

024. If you are not using any NFP method, what method do you use? (Artificial users)

<table>
<thead>
<tr>
<th>Method</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condom</td>
<td>1</td>
</tr>
<tr>
<td>Pill</td>
<td>2</td>
</tr>
<tr>
<td>IUD</td>
<td>3</td>
</tr>
<tr>
<td>Diaphragm</td>
<td>4</td>
</tr>
<tr>
<td>Others (specify)</td>
<td>5</td>
</tr>
</tbody>
</table>

025. a) Have you ever used a natural method of family planning in the past (artificial users)

<table>
<thead>
<tr>
<th>Option</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
</tr>
</tbody>
</table>

b) State one main reason why you stopped NFP Method:

__________________________________________________________

c) Which NFP method were you using before you stopped?
<table>
<thead>
<tr>
<th>Method</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calendar-Rhythm</td>
<td>1</td>
</tr>
<tr>
<td>Ovulation-Billings</td>
<td>2</td>
</tr>
<tr>
<td>Sympto-Thermal</td>
<td>3</td>
</tr>
<tr>
<td>Basal Body Temperature</td>
<td>4</td>
</tr>
<tr>
<td>Others (specify)</td>
<td>5</td>
</tr>
</tbody>
</table>

026. State one main weakness (problem) which you think is common with the use of a natural family planning method:
Natural Family Planning (NFP) involves the whole relationship of husband and wife, presupposes a good relationship and positive attitudes toward love and life and when lived out fully, will enrich the relationship. Thus it is more that just a method of birth control. NFP is an approach that will facilitate a deeper consciousness that will challenge the couple to look for new ways of daily interaction and will bear the fruit of peace, love, mutual respect, confidence in handling rough roads in their marriage and creativity in conjugal, cultural renewal, invoking the best elements of our national cultures blended with contributions from second and third cultures. It is in this context of couple growth that natural method or way of life, is a contribution to World peace.


Natural Family Planning (NFP) is seen as a service to the family that is consistent with a christian vision of marriage, family life and human sexuality. Training couples to practice NFP successfully also involves a commitment to the following specifically christian values; faithful interpersonal commitment; the mutual effort of the spouses to decide responsibly on the timing and limiting of births in the light of duties to God, to themselves, to the family they already have and to the society of which they are a part; the realization that in their childrearing
and childbearing the couple participate with God in the ongoing work of procreation and redemption; the value of the child as a person called into existence by God and redeemed by Jesus Christ and the normative church teaching regarding the unacceptability of artificial methods as well as sterilization and abortion.


It is the Love of and for the child which leads to the planning of the family, and therefore a child is not an accident but an essential factor in the life of a couple.


"Natural" means that which is in accord with the very being of man and woman as creatures made in the image and likeness of God and does not mean "doing what comes naturally".


NFP is a way of life in which properly instructed couples can plan to achieve or avoid pregnancy by applying appropriate sexual behavior during the fertile and infertile phases of the menstrual cycle without using drugs, chemicals, mechanical devices and or operations.

- KEMRI. 1990.

Natural Family Planning methods are more than techniques of birth
control for they also involve the challenging task of education in which conjugal Love is intimately linked with openness to life.

Natural Family Planning is an educational process whereby a couple is made aware of their combined fertility; an awareness which leads to dialogue which when stabilized helps to strengthen the other aspects of marital life.

Natural Family Planning has been found to be suited to the needs of all people and is capable of being used by all couples except those who are unable to Love, or ...... who cannot be taught to love.
Artificial methods: These refers to all fertility regulation techniques that employ man-made equipments or chemicals as exemplified by the pills, condoms, I.U.Ds, Vasectomy and Tubal Ligation and do not apply the naturally occuring signs of the female's menstrual cycle.

Attitude: A feeling or emotion expressed in some way toward a fact or state.

Basal Body Temperature: The temperature of the body at rest.

Cervical Mucus: A fluid secreted by the glands in the cervix, necessary for sperm survival and it is its presence /or absence that creates a sensation of wetness/or dryness by the female through her fertility cycle.

Cervix: The lower narrow part of the uterus that protrudes into the vagina.

Cycle: The time from the first day of menstruation through the last day before the next menstruation.

Double Ovulation: The release of the ova (within a 24-hour period) which may result in the conception of fraternal twins if fertilized.

Ejaculation: The expulsion of semen from the penis.

Endometrium: The inner lining of the uterus which is shed at menstruation and where the fertilized ovum implants if conception occurs.

Oestrogen: Hormone secreted by the ovaries which is responsible
for the initial development of the endometrium and which caused
the cervix to secrete fertile type mucus.

FAM: Fertility Awareness Methods which is a synonym with NFP.

Family Planning: Refers to all aspects and activities the family
unit (i.e. fathers, mothers and children) do have and are engaged
in respectively, in persuasion of stable harmonious, healthy and
morally sound members and relationship within the family unit and
between it and the society of which it is part and parcel. It is
not therefore used in its narrow sense of child limitation per se
but is a wholistic approach to the family.

Fertility Awareness: The awareness of cycle phase and any moods
associated with it, such as increased sexual desire in some
females, pain during middle of the cycle, temperature changes and
mucus changes in quality and quantity.

Fertilization: The union of sperm and ovum which forms a zygote.
Immediately after the process has taken place a whole human being(
though called a zygote at this stage) has been formed with all its
genetic characteristics defined such as sex and color.

Follicular phase: The time from menstruation to ovulation (also
called the proliferative phase).

Menstruation: A bloody discharge by the sloughing off the outer
layer of endometrium and normally occurring 10 to 16 days after
ovulation.

Mittleschmerz: A German term meaning "Pain in the middle", and
refers to the ovulation related pain which occurs in some women,
lasting for some hours to several days.

**Mores**: Social norms and customs that provide the moral standards of behaviour of a group or society. It refers specifically to social customs that have not been enacted into law.

**Love**: Here defined as giving, sacrificing and sharing and feeling for the other spouse and not simply sexual intercourse:

**Ovaries**: The two female reproductive organs which contain the ova (eggs) and which are responsible for the production of oestrogen.

**Ovulation**: The release of the ovum from the ovarian follicle.

**Ovum**: The female egg cell that unites with a male sperm cell to cause conception.

**Peak day**: The last day of mucus, which is clear, stretchy and or lubricative.

**Progesterone**: The female hormone secreted by the corpus luteum, responsible for the completing the development of the endometrium and for causing the basal body temperature (BBT) to rise.

**Semen**: The mixture of seminal fluid and sperm which is expelled from the penis during the ejaculation.

**Sperm**: The male cells that unite with the female ovum to cause conception.

**Value**: The intrinsic worth or desirability assigned by a person, group or culture to an idea or state.

**Vas-deferens**: Part of the long passage along which the spermatozoa are transported to the urethra from which they are discharged during ejaculation.
APPENDIX IV: TABLES AND MAPS

Table A. Population size, area and population density for Nairobi city.

<table>
<thead>
<tr>
<th>Ward</th>
<th>Popul. 1979</th>
<th>Popul. 1989</th>
<th>Area (Km²)</th>
<th>Pop.Density persons /Kms². 1979</th>
<th>1989</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kangemi</td>
<td>21,081</td>
<td>34,279</td>
<td>5</td>
<td>3,933</td>
<td>6,858</td>
</tr>
<tr>
<td>Kawangware</td>
<td>24,413</td>
<td>39,697</td>
<td>4</td>
<td>5,261</td>
<td>9,924</td>
</tr>
<tr>
<td>/Riruta North</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Riruta Satellite</td>
<td>17,165</td>
<td>27,911</td>
<td>5</td>
<td>3,433</td>
<td>5,582</td>
</tr>
<tr>
<td>Waithaka</td>
<td>7,365</td>
<td>11,976</td>
<td>4</td>
<td>1,521</td>
<td>2,994</td>
</tr>
<tr>
<td>Uthiru</td>
<td>8,140</td>
<td>13,236</td>
<td>6</td>
<td>1,218</td>
<td>2,206</td>
</tr>
<tr>
<td>Mutuini</td>
<td>7,627</td>
<td>12,402</td>
<td>4</td>
<td>1,588</td>
<td>3,101</td>
</tr>
<tr>
<td>Kilimani</td>
<td>4,511</td>
<td>7,335</td>
<td>24</td>
<td>188</td>
<td>306</td>
</tr>
<tr>
<td>Karen/Langata</td>
<td>13,112</td>
<td>21,321</td>
<td>74</td>
<td>176</td>
<td>288</td>
</tr>
<tr>
<td>Kibera/Woodley</td>
<td>63,353</td>
<td>103,051</td>
<td>7</td>
<td>8,515</td>
<td>14,716</td>
</tr>
<tr>
<td>Golf Course</td>
<td>16,670</td>
<td>27,106</td>
<td>5</td>
<td>2,835</td>
<td>5,421</td>
</tr>
<tr>
<td>Nairobi/south/west</td>
<td>28,997</td>
<td>47,150</td>
<td>11</td>
<td>2,432</td>
<td>4,426</td>
</tr>
<tr>
<td>Industrial area</td>
<td>9,314</td>
<td>15,145</td>
<td>10</td>
<td>849</td>
<td>1,515</td>
</tr>
<tr>
<td>Mugumuini</td>
<td>11,750</td>
<td>19,106</td>
<td>124</td>
<td>94</td>
<td>154</td>
</tr>
<tr>
<td>Embakasi</td>
<td>13,502</td>
<td>21,955</td>
<td>62</td>
<td>217</td>
<td>354</td>
</tr>
<tr>
<td>Dandora</td>
<td>22,672</td>
<td>36,866</td>
<td>162</td>
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<td>663</td>
<td>1,094</td>
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<td><strong>Nairobi Total</strong></td>
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Table B: Classification of Nairobi Wards by Social class - 1979 and 1989.

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<tr>
<td>Riruta Satellite</td>
<td>Nairobi South/West</td>
</tr>
<tr>
<td>Waithaka</td>
<td>Industrial area</td>
</tr>
<tr>
<td>Uthiru</td>
<td>Mugumuini</td>
</tr>
<tr>
<td>Mutuini</td>
<td>Embakasi</td>
</tr>
<tr>
<td>Karen- Langata</td>
<td>Harambee</td>
</tr>
<tr>
<td>Kibera - Woodley</td>
<td>Lumumba</td>
</tr>
<tr>
<td>Makadara</td>
<td>Uhuru</td>
</tr>
<tr>
<td>Kaloleni</td>
<td>Pangani</td>
</tr>
<tr>
<td>Maisha - Makongeni</td>
<td>City Centre</td>
</tr>
<tr>
<td>Mbotela</td>
<td>Nairobi Central</td>
</tr>
<tr>
<td>Bahati</td>
<td>Spring Valley</td>
</tr>
<tr>
<td>Maringo</td>
<td>Ngara West</td>
</tr>
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<td>Shauri - Moyo</td>
<td>Ngara East</td>
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<tr>
<td>Pumwani</td>
<td>Eastleigh</td>
</tr>
<tr>
<td>Ziwani - Kariokor</td>
<td>Parklands</td>
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<tr>
<td>Karura</td>
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<tr>
<td>Roysambu/Kahawa</td>
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<td>Ruaraka/Kasarani</td>
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<tr>
<td>Kariobangi</td>
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</table>

:C>B.S (1991). P. 32: The data on table A on the preceding page for 1989 was obtained by use of proportion assuming a constant distribution of Nairobi's populace. This was because the distribution data for 1989 census have not yet been released except for the total population for the city:1.346 million. It should however be noted that some changes in the distribution may have occurred especially as in case of new residential estates which have recently come up e.g Kahawa West Jua Kali Estate.
NAIROBI PROVINCE

KIAMBU

1. KILIMANI
2. KANGEMI
3. RIRUTA NORTH
4. RIRUTA SOUTH
5. WATHACA
6. UTHIRU/RUTHINITU
7. MUTUINI
8. KAREN/LANGATA
9. KIBERA/WOODLEY
10. GOLFCOURSE
11. INDUSTRIAL AREA
12. HIGUAONI
13. KIAMBU
14. EMBAKASI
15. HAMORA
16. HARAMBEE
17. LUNUMBA
18. MAKADARA
19. KALOLENI
20. KAISHA MAKONGENI
21. MBETEA
22. BARATI
23. MARINGO
24. UHURU
25. SHAURI MOYO/KAMUKUNJI
26. PUMVANI
27. ZIWANI/KARIOKOR/STAREHE
28. PANGANI
29. CITY SQUARE
30. NAIROBI CENTRAL
31. SPRING HOTEL
32. ROYSAMBU
33. PARKLANDS
34. NGARA WEST
35. NGARA EAST
36. ROYSAMBU
37. RUARAKA/KASARANI
38. KARIOBANGI
39. MATHARE
40. EASTLEIGH

Source: O'Mahony (1985), with adjustments.
APPENDIX V: RESEARCH PERMISSION

LETTERS

[Handwritten notes and signatures present on the page]
27th November, 1989

Dear Sir,

TO WHOM IT MAY CONCERN

The bearer of this letter Mr/Mrs/Miss Frederick Kiptepkeny Cheulu (Q/50/7193/88)
is a bonafide postgraduate student at the Population Studies and Research
Institute of the University of Nairobi. He is undertaking a study entitled
DETERMINANTS OF NATURAL FAMILY PLANNING ACCEPTABILITY: "A CASE STUDY OF NAIROBI".

within your areas and we would be very grateful if all possible assistance
is given to him/her to make the study a worthwhile venture.

With regards,

[Signature]

[Stamp: Population Studies and Research Institute]

[Endorsement:]

The respondents for this study are

requested to give all necessary assistance to Mr. Cheulu. This letter is

endorsed by the director of this institute.

This letter is

endorsed by

[Signature]

for Permanent Secretary

Office of the President

16/12/90

The Sister In-charge,
Nazareth (Riara Ridge), NFP CENTRE,
P.O. Box 49682,
NAIROBI.

Dear Sister,

I want to introduce to you Mr. Fredrick Chelule from the University of Nairobi – Population Studies Research Institute. He is doing a project on determinants of N.F.P. acceptability case study of Nairobi.

The time is 1½ months to end by mid January with a total of 250 clients who are users.

Would it be acceptable if this man could do some study of NFP users at your centre.

With sincere thanks.

Sr. Lelia Kennedy,
Family Life Programme.

LK/unn.

The Sister In-charge,
Mater Misericordiae Hospital (NFP Centre),
P.O. Box 30325,
NAIROBI.

Dear Sister,

I want to introduce to you Mr. Fredrick Chelule from the University of Nairobi - Population Studies Research Institute. He is doing a project on determinants of N.F.P. acceptability case study of Nairobi.

The time is 1½ months to end by mid January with a total of 250 clients who are users.

Would it be acceptable if this man could do some study of NFP users at your centre?

With sincere thanks.

Sr. Lelia Kennedy,
Family Life Programme.

LK/mm.
16th February 1990

Director
Family Planning Association of Kenya
PO Box 30581
NAIROBI

Dear Sir

TO WHOM IT MAY CONCERN

The bearer of this letter Mr Frederick Kiptepkony Chelule (Q50/7193/88) is a bonafide postgraduate student at the Population Studies and Research Institute of the University of Nairobi. He is undertaking a study entitled: "Determinants of Natural Family Planning Acceptability - A Case Study of Nairobi". The Research involves the users of Natural Family Planning and as a control variable will involve the non-users of Natural Family Planning to enable a reasonable and a credible data analysis.

It will be greatly appreciated if the candidate is therefore accorded access to the persons to enable him complete the study.

With regards,

Yours sincerely,

HWO Okoth-Ogendo
Professor of Public Law

and

Director
22nd February, 1990

Prof. H.W.O. Okoth Ogendo,
University of Nairobi,
P.O. Box 30197,
NAIROBI.

RE: MR. FREDRICK KIPTEPKENY CHELULE
Your letter dated 27th November, 1989 refers.

Permission is hereby granted to the above named student who is undertaking a study entitled "Determinants of Natural Family Planning Acceptability "A Case Study of Nairobi" in our Health Centres so long as:

1) It does not devolve any cost to the City Commission.
2) You will furnish the City Commission with a copy of the report.

[Signature]
MEDICAL OFFICER OF HEALTH
C.C.
Senior Medical Officer,
Division I
Senior Medical Officer,
Division II
Mr. F.K. Chelule